

ephemera: theory & politics
in organization

Repair matters



What is *ephemera*: theory & politics in organization?

ephemera is an independent journal, founded in 2001. *ephemera* provides its content free of charge, and charges its readers only with free thought.

theory

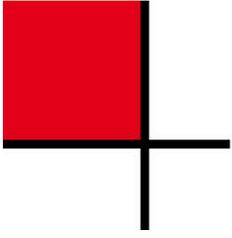
ephemera encourages contributions that explicitly engage with theoretical and conceptual understandings of organizational issues, organizational processes and organizational life. This does not preclude empirical studies or commentaries on contemporary issues, but such contributions consider how theory and practice intersect in these cases. We especially publish articles that apply or develop theoretical insights that are not part of the established canon of organization studies. *ephemera* counters the current hegemonization of social theory and operates at the borders of organization studies in that it continuously seeks to question what organization studies is and what it can become.

politics

ephemera encourages the amplification of the political problematics of organization within academic debate, which today is being actively de-politized by the current organization of thought within and without universities and business schools. We welcome papers that engage the political in a variety of ways as required by the organizational forms being interrogated in a given instance.

organization

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ephemera

theory & politics in organization

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Repair matters

Valeria Graziano and Kim Trogal

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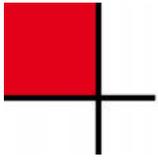


Table of Contents

Editorial

Repair matters <i>Valeria Graziano and Kim Trogal</i>	203-227
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Articles

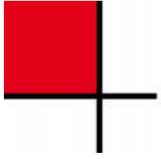
Repair's diverse transformative geographies: Lessons from a repair community in Stuttgart <i>Benedikt Schmid</i>	229-251
Mending the commons with the 'Little Mesters' <i>Julia Udall</i>	253-281
Food repair: An analysis of the tensions between preventing waste and assuring safety <i>Sebastian Abrahamsson</i>	283-301
The organization is a repair shop <i>Lisa Conrad</i>	303-324
Repair practices in a virtual smartphone community: Fostering more sustainable usage through branding <i>Frithiof Svenson</i>	325-344
Against innovation: Compromised institutional agency and acts of custodianship <i>Marcell Mars and Tomislav Medak</i>	345-368
Repairing the community: UT Califas and convivial tools of the commons <i>Manuel Callahan</i>	369-387

Notes

- The right to care: Entering outside in the southern European crisis of welfare 389-400
Marta Pérez and Francesco Salvini Ramas
- Repeating brokenness: Repair as non-reproductive occupation, improvisation and speculation 401-414
Gigi Argyropoulou and Hypatia Vourloumis
- Music, desire and affective community organizing for repair: Note for the piece 'Le désir est un exil, le désir est un désert...'
Hubert Gendron-Blais 415-425
- Spelman cups: Attitudes to the past 427-440
Bridget Harvey
- Ease of repair as a design ideal: A reflection on how open source models can support longer lasting ownership of, and care for, technology 441-449
Serena Cangiano and Zoe Romano

Reviews

- Capitalism unwrapped 451-461
Emanuele Leonardi
- Seduction by contract 463-466
Jeroen Veldman



Repair matters

Valeria Graziano and Kim Trogal

...
She said: What is history?
And he said: History is an angel
being blown backwards into the future
He said: History is a pile of debris
And the angel wants to go back and fix things
To repair the things that have been broken
But there is a storm blowing from Paradise
And the storm keeps blowing the angel backwards into the future
And this storm, this storm is called Progress
Laurie Anderson – The Dream Before (for Walter
Benjamin)
Album: Strange Angels, 1989

Introduction

This special issue of *ephemera* aims to investigate contemporary practices of repair as an emergent focus of recent organizing at the intersection of politics, ecology and economy (e.g. Bialski et al., 2015; Perey and Benn, 2015; Wiens, 2013). We wish to explore notions of repair and maintenance as crucial components for redefining sociopolitical imaginaries (Castoriadis, 1987), away from the neoliberal capitalist dogma of throw-away culture and planned obsolescence.

What we set out to do in these introductory pages is to convoke repair as a 'regime of practice'. By this, we wish to gesture towards a Foucauldian analysis and definition of regimes of government as the specific compounds of 'the rationalities, technologies, programs, and so on that try to influence the conduct of the state – its agencies and agents – and to shape the conduct of individuals and populations within the state' (Dean and Villadsen, 2016: 21). Repair is not

outside of dominant governing regimes and practices, but shaped by them. At the same time, following Foucault, it cannot be defined and determined by extant governing rationalities – there are always scopes for approaching, practicing and organizing repair ‘differently’. In putting together this special issue we were particularly interested in the latter – and we focused our analysis on the potential of repair as a sources of counter-power and ‘counter-conduct’ (Foucault, 2009: 195). We believe that by describing repair as a regime of practice we can highlight how it can be implicated in both rationalities, and thus, through the constellation of repair concepts, figures and gestures, this special issue aims to rethink the way we narrate our relationships with the human-made matters, tools and objects that are the material mesh *in which organisational life takes place as a political question*.

In this editorial, we articulate a specific position that brings feminist materialist politics as both critique and proposition at the centre of repair matters. We share with other feminist materialist scholars an approach that sees repair matters as embedded conditions of everyday life and social infrastructures, and resists treating them as discrete issues. While repair can potentially be regarded as a characteristic of certain objects, as a moment in an economic cycle, as one aspect of design, or again, as a discrete set of skills, each of these viewpoints taken by itself risks detaching repair as a regime of practice from existing social relations, therefore closing off the political capacities it might engender.

In order to explore the *politics of repair* in the context of organization studies, we focus on four aspects of reflection that we believe will become central to further discussion in the coming political phase: 1) repair as a specific kind of labour of care and social reproduction; 2) repair as a direct intervention into the cornerstones of capitalist economy, such as exchange versus use value, work regimes and property relations; 3) repair of our material world and logistical infrastructures; and finally 4) the repair of our immaterial world, including the ways in which we think about complex systems and institutional practices. In setting out these four stakes, we aim to contribute to a theoretical framework on repair, which we see as a necessary tactic for contemporary forms of political agency. We argue that these dimensions also capture the points of resonance between the contributions to the issue, which will be introduced in the concluding part of this editorial.

Repair matters: A rising field of concerns

Repair has visibly come to the fore in recent academic and policy debates, to the point that ‘repair studies’ is now emerging as a novel focus of research (Houston

et al., 2017; Mattern, 2018; Reeves-Evison and Rainey, 2018). Through the lenses of repair, scholars with diverse backgrounds are mapping a broad range of activities, subjectivities and skillsets. The political aspects of repair have become an issue of interest in the realms of design (Rosner and Ames, 2014), new media (Jackson, 2014), urban geography (Graham and Thrift, 2007) and, in a broader sense, legal studies (Verdeja, 2008; Daly, 2016) and literary theory (Sedgwick, 2003). Repair can refer to both paid and unpaid labour taking place in domestic and work spaces, as well as being a crucial component shaping the public infrastructures in our lived environment. The conceptual constellation revolving around the notion of repair draws specific attention to the interaction between humans, machines and materials (as within the discourse of Science and Technology studies, for example), but in more abstract terms it is also used to refer to the necessity of maintaining systems of social relations and institutional practices (as for instance, in discussions around 'reparative' justice).

However, the implications of the politics of repair for critical organization studies, or studies that seek to account for organizations as forms of articulation between theory and practice, are under-explored. To address repair in its organisational capacity entails exploring how practices of repair are cast as forms of labour or valorised as forms of expertise, as well as the role of repair in maintaining social relations and 'fixing' organisational designs (Johnsen et al., 2017; Wright et al., 2013). In the special issue, we wish to contribute to this conversation by focusing particularly on repair as a regime of practice that fosters the imagining of alternative social scenarios, where different relations between human, non-human and more-than-human actors become possible.

Repair can be understood as a subset of those care practices and politics that have been the focus of feminist concerns that foreground social reproduction (e.g. Fortunati, 1995). Specifically, repair can contribute to those theories wishing to refine alternative organisational models (Phillips and Jeanes, 2018) to those centered around growth, which invariably are based on an extractive relationship with the activities of social reproduction and so-called natural 'resources'. Several characteristics of repair therefore make it relevant for moving beyond and opposing a capitalist economy predicated upon the constant intensification of a social metabolism that the planet cannot longer sustain – and that social justice movements across the globe cannot longer accept (Salleh, 2010).

At the scale of global relations, the spatialisation of repair is configured alongside habitual disparities between North and South and so-called 'developed' and 'under-developed' areas. This is demonstrated, for instance, by the dumping of broken, used products in specific parts of the world, whose locations are host to industries such as ship stripping, second-hand clothes or second-hand motor and

electronic goods (Brooks, 2013; Demaria, 2010; Simone, 2014). The question of how repair practices are spatialised and sit within larger infrastructures is therefore politically crucial. The way it can enable or exacerbate social and spatial (in)justices therefore demands perspectives that go further than focussing on the repair of discrete objects considered in isolation.

Repair is an activity that is also growing in significance amongst conventional enterprises, where the complexities of arranging swift interventions to take care of breakdowns are impacting choices around workflows, logistics and product design, as well as asset management and overhaul across different sectors (e.g. EFNMS, the European Federation of National Maintenance Societies). However, the position of this group of economic actors remains highly ambivalent vis-à-vis the deeper political implications of taking repair seriously, caught between the contradictions of generating profit and dividends for stakeholders and the need to substantially reorganise production to minimize or reverse social and ecological impact.

Beyond the for-profit sector, however, repair is also an emerging trend among third-sector organizations seeking alternative forms of 'economizing' on production. The last ten years have seen a rapid proliferation of local initiatives around repair and maintenance aimed at challenging the patterns of production and consumption within neoliberal capitalism (Chertkovskaya and Loacker, 2016). Recent initiatives such as Repair Cafés and Restarter Parties draw together local constituencies and volunteers to share mending skills. Online communities for the exchange of tutorials like iFixit.com and tool libraries are rapidly multiplying, to the point where all these initiatives taken together begin to form a new 'Do it together' lifestyle movement (Haenfler et al., 2012; Ratto and Boler, 2014). These initiatives tend to share some of the concerns first collectivised by hackerspaces and bike-repair workshops within squatting movements, and also echo feminist arguments regarding the widespread undervaluing of reproductive labour, even within alternative cultures (Ukeles, 1969).

In recent work, we have been tracing how repair has become a focus of activist initiatives and grassroots organizing, but also how this is at the core of a new breed of social-entrepreneurial organizations, where we found political diversity both across and within this spectrum of practices and organizations. We noticed how repair practices can engage in materialist politics firstly, by organising against private property in favour of the common, secondly, by participating in radical, transversal pedagogies of ecological re-skilling and thirdly, by sustaining new forms of sociality which put the centrality of work into question (Graziano and Trogal, 2017). Following this agenda, one of the core aims of this special issue is to surface questions around the collective undertaking of specific

reproductive activities: can repair become an effective means for intervening in the contested narratives of empowerment such as those found within left accelerationism (Mackay and Avanesian, 2014) and the political imaginary of 'luxury communism' (Bastani, 2015)? Can repair help to examine and challenge the productivist bias that still dominates both mainstream and alternative approaches to social and ecological organization?

Repair, care and social reproduction

The connection between repair and feminist works on care and reproduction has been highlighted by a number of scholars connected to repair as a field of study, most notably the media scholar Steven Jackson (2014). In his work on 'broken world thinking', Jackson argued that predominant neoliberal values are in contrast to care in that they consistently draw attention to the moments of 'birth' and the triumph of human creations, whereas care at the end of life-cycles 'drops out' of the imagination. Similarly, Shannon Mattern more recently pointed to the connection of repair and reproductive labour to pose questions around the built 'physical infrastructures that support ecologies of care' (2018, n.p.). Alongside Mattern and Jackson, we find it important to recognise the longstanding ways in which repair has been a part of feminist scholarship and activism. This acknowledgement has broader implications beyond historical accuracy, but one that also carries the responsibility of politicising repair beyond the limits of class, gender and colour-blind analysis of the field, as well as the dangers of lending this regime of practice to the ineffective reformist agenda of 'green' capitalism (Sullivan, 2009).

Reflexively 'maintaining the world' has long been practiced, observed, documented, valued and theorised: from materialist feminists in the 1970s, who identified unpaid domestic labours and social reproduction as the basis for production (dalla Costa and James, 1972; Federici, 2004; Fortunati 1995), to those who explored and re-conceptualised dependency (Feder Kittay, 2013; Feder Kittay and Feder, 2003; Plumwood, 1993) and those who in psychology, education and political theory conceptualised 'care' as a specific mode of ethical agency (Gilligan 1982; Noddings, 1984; Sevenhuijsen, 1998; Tronto, 1993). Highlighting the continuities and repercussions of such body of work upon current debates around repair and maintenance is thus of crucial value at a time when 'repair studies' is coalescing into a transdisciplinary field still in formation. This task can begin by reconsidering Berenice Fisher and Joan Tronto's seminal definition of care as 'everything that we do to maintain, continue and repair our "world" so we can live in it as well as possible. That would include our bodies, ourselves and our environment, all of which we seek to interweave in a complex

life-sustaining web' (Fisher and Tronto, 1990: 40). Such a task could continue by engaging with the more recent 'thickening' of their insight by science and technology theorists such as Maria Puig de la Bellacasa, who has taken their definition further to include non-human actors in considering 'the meanings of care for thinking and living with more than human worlds' (2011: 4).

Repair shares with broader practices of care and social reproduction a recalcitrance to be reduced to a regime of practice that is inherently or intrinsically 'good'. Feminist work on the ethics of care, particularly in Gilligan's (1982) formulation, has been one that privileges relations, responsibilities and affect in context, over the abstracted competing 'rights' of individuals or sets of universal moral rules. Just as, following Tronto (1993), care can be understood as inherently political the moment one pays attention to it, who is doing it and for whom, the tension we wish to highlight here lies in between on the one hand, efforts to resignify an ethics, or more accurately perhaps, a *moralizing* ethos of repair, as opposed to, on the other hand, practices and theories striving to put forward a *political* ethos of repair as a key aspect to consider in contemporary organizing. Following Silvia Federici's (2016: n.p.) argument that social reproduction is 'not only central to capitalist accumulation, but to any form of organization... [and therefore] at the center of any transformative project', repair as a component of social reproduction holds the possibility to protest, to reconfigure, to prefigure alternatives to current regimes of property as well as putting forward the rights of the maintainers of spaces and infrastructures as legitimate.

Politics of repair: Value, work and property

In the realms of alternative consumption (Littler, 2008; Podkalicka and Potkańska, 2015) and production (Gibson-Graham, 2006), an examination of the politics of repair can help expose some of the emerging tensions and contradictions. Repairing as a way of prolonging the life of possessions intersects with anti-consumerist or anti-growth practices, and takes on further relevance for those diverse political projects grappling with post-growth (Jackson, 2009; Johnsen et al., 2017) or degrowth economies (Demaria et al., 2013). Newly emerging organisations and social enterprises in Europe and elsewhere, that are established to trade in repaired and restored goods are therefore worth exploring in this context, not least because many of them have been undertaken not purely as businesses, but as social initiatives that aim to support ethical and affordable consumption alongside new opportunities for employment.

In discussions around transitioning to more sustainable economies, tasks associated with repair and maintenance are benefitting from a new social status and renewed scholarly interest (see for instance the current fascination in business studies with the long-standing practice of *jugaad* in the Indian sub-continent – e.g. Rai, 2019). However, a meaningful analysis of the conditions and power struggles framing such activities calls into question the very mantra of innovation and creativity as core discourses in the field of management studies (Russell and Vinsel, 2016). As Lucy Suchman argued, what is seen as innovation often involves complex practices of use and maintenance, which demands recognising these labours as a central strategy. Doing so, acts to ‘decenter sites of innovation from singular persons, places and things to multiple acts of everyday activity, including the actions through which only certain actors and associated achievements come into public view’ (Suchman, 2009: 1).

What current empirical research around repair practices shows (including the articles found in this special issue, see also Strebel et al., 2019), is a puzzling conglomerate of diverse and at times contradictory logics and ideas around different cornerstones of industrial production such as: different labour arrangements, including the creation of green jobs versus the reliance on state subsidised labour framed as training or ‘workfare’; the management of a common and the reliance on shared public infrastructures versus privatisation of waste materials for re-use or repair, which become appropriated for profit; an entrepreneurial rhetoric of organization inherited from growth imperatives versus the experimentation with different regimes of cooperation and solidarity. These ambiguities highlight the necessity of a repair politics to extend the possibilities of circular and green economies, which on the ground risk remaining predicated upon a growth paradigm and the enforcement of ‘cheap’ labour and ‘cheap’ nature, to borrow Jason Moore’s expression (2014).

Among these various contradictions, the one surrounding the status of labour seems particularly prescient today, as the economic disparities continue to deepen and the possibility of a ‘Green New Deal’ is under discussion again (e.g. New Economics Foundation, 2008). As with other ‘green work’ (Pettinger, 2017), repair work relies on the precarious and free dimensions of labour in order for it to be profitable, and with it, attendant gendered and racial dimensions. This is particularly toxic. It is also in contradiction with the very claim of sustainability that is at the centre of this new sector of economic policies, which from a capitalist perspective is narrowly ‘taken to mean sustained growth’ (O’Connor, 1994: 1). Rather, following Stefania Barca, in order to move towards degrowth, the labour of repair and maintenance must be *de-alienated*. Namely, the control of the surplus value they produce must be put in the hands of these workers

themselves, if these activities are to support ‘the possibility for truly emancipative ways of organizing social metabolism’ (Barca, 2017: 5).

The frequency in which repair work relies on unpaid or state paid labour and freely claimed goods might appear as a contradiction in a new ‘green’ economic discourse that highlights entrepreneurship, micro-entrepreneurship and financial sustainability still as part of its core values, yet it is important not to forget that industrial production always relied on unpaid elements of labour both within the factory and outside of it. What is perhaps novel in the sustainability discourse is both the extent in which the unpaid labour of repairing is now valorised as volunteering, training or rehabilitation (such as in the context of unemployed workfare schemes or asylum seekers without work permits), without calling into question the very roots of the problem of a society organized around the fast metabolic predicaments of the work ethic and conspicuous consumption.

Repair of objects, buildings and infrastructures

Repair and re-use stand at the top of the management hierarchy of the EU’s 2008 *Waste Framework Directive*, a principle first articulated in 1975. This framework, adopted by a number of member states, places importance on waste minimisation via prevention strategies which include repair. Repair and re-use are seen as a better alternative to recycling or material recovery, where the reprocessing of materials often demands intensive energy and water use, often in toxic processes. In those scenarios, objects and materials still move towards landfill, just at a slower pace, often degrading in their material integrity with each re-processing (Stahel, 2017).

Repair is thus seen as one of the more sound approaches for the conservation of material resources and reduction of waste, yet insights from sociologists apply here to reveal some important contradictions. This includes unpicking the ways that ‘suites of technologies and products are used together’, an insight that demands understandings of complex ways in which ‘they cohere’ (Shove, 2003: 397). Pointing to the ways that technical objects are often ‘hard-wired’ into buildings and other infrastructures, sociologists and historians of technology have shown how objects both establish and embed practices (e.g. *ibid.*, Bijker et al., 1989, Cowan-Schwartz, 1983). The challenge for repair then is that while it is placed high on ‘waste hierarchy’ from the perspective of material resources, to neglect to see that those items are embedded in the infrastructures of the time of its production, may help to sustain rather than reduce environmentally damaging practices.

As Elizabeth Shove (2003, 2018), and others invested in a practice theory perspective have suggested, policies trying to reduce energy consumption or waste often fail because they depart from a limited set of theoretical assumptions, largely derived from behavioural economics and psychology, where the change of individual behaviour is brought about through personal choice and rational considerations of self-interest. Theorists such as Lucy Suchman have highlighted that ‘complex objects can be understood as the alignment of their parts, and in the sense that objects are constituted always through specific sites and associated practices’ (Suchman, 2005: 380-1). Similarly, Shove invited an understanding of practices as emerging from the complex interrelation of three aspects: the materiality of objects, tools and infrastructures; embodied sets of habits and skills; meanings and symbolic values assigned to specific activities. Investigating how socially and historically constructed standards of ‘convenience, cleanliness and comfort’ (*ibid.*, 2003) complicate linear narratives of progress and adoption and de-centre the techno-determinist approach to the object, its materials and its design, she argued in favour of a more complex consideration of practices as systems. These are constituted of heterogeneous factors impinging upon one another, from the passing on of knowledges or the abandonment of certain ways of doing things, to the *unequal access* to infrastructures upon which the uses of specific items depends.

Dwelling on this latter dimension, namely that we access infrastructures through objects and their associated practices, also brings the ways in which the repair and maintenance of the built environment performs or exacerbates distributional (in)justices into sharp focus. Drawing on Latour and Hermant’s ‘Paris: Invisible City’, Susan Leigh Star pointed out:

Study a city and neglect its sewers and power supplies (as many have) and you miss essential aspects of distributional justice and planning power (Latour & Hermant, 1998). Study an information system and neglect its standards, wires, and settings and you miss equally essential aspects of aesthetics, justice and change. (Star, 1999: 379)

Just as infrastructures reveal ‘aspects of distributional justice and planning power’ (*ibid.*), so does their repair. As ethnographic studies in urban geography have shown, repair and maintenance are crucial elements of contention in the persistent struggle between private actors, public authorities and citizens over the establishment of rights of access and duties of care across the ‘city fabric’ and its infrastructures (Chelcea and Pulay, 2015). In many cases, the withholding maintenance of the built environment can be considered as constituting a form of class violence in neoliberal political economies. From the ‘rent gap’ in privately owned buildings (Smith, 1996) to the ‘managed decline’ of buildings and neighbourhoods on state property (e.g. Lees, 2018), withholding the upkeep of

localities, particularly in the lead up to ‘regeneration’ of social housing estates, has formed an integral component of neoliberal urban development (Bialski et al., 2015). Here ‘slow violence’ (Nixon, 2011; Kern, 2016) accompanies legitimated state-subsidised transferral of property, both of ‘fixed capital’ of buildings and infrastructures themselves, as well as their servicing through the subcontracting of repair and maintenance work of, for instance, hospitals, schools and social housing estates. Other established practices include restorative projects to neighborhoods whose re-development can encompass local legislations criminalizing homelessness, anti-squatting measures and so on, as a class-based response to the presence of increasingly impoverished populations that evicts them from the legitimate use of public spaces (Deutsche, 1996; Smith, 1996). Here, the political rhetoric of repair changes to one of the ‘restoration’ of decorum.

That repair has come to matter (again) is therefore in response not only to the environmental crisis, but to the latest wave of colonisation of common spheres of reproduction by part of the market. This colonisation of vernacular spaces can also be understood as not only encompassing the maintenance of the built environment, but also subsuming the repair practices of everyday objects. For example, there is a growing movement around ‘design for repair’, which aims to produce items designed to be easily taken apart, with spare parts made available by the manufacturers. This signals the transition of repair from vernacular, informal and independent economies towards more industrialised, yet ‘user-oriented’, practices. As Huws (2015) put it, products are key moments in capitalist processes and the emergence of new products for repair points to the growing commercial interest to intervene at multiple points in products’ life-cycles. While a shift in product design practices is very welcome, the interest in product reparability thus risks remaining politically questionable, as it has been paralleled by manufacturers’ expansions into the ‘aftermarket’, which is seen as a potential site of monopoly. In the context of the so-called fourth industrial revolution, corporations are developing a variety of strategies that make it no longer possible to repair goods independently (e.g. see work by the Repair Association). Against this encroachment of property, we witness the articulation of a new ‘right to repair’, not only as a consumer right, but also the right of autonomous repair workers to access an independent livelihood, opening up a terrain of struggle between different regimes of practice. A politics of repair needs to emerge in this respect, as the articulation of new claims around different regimes of ownership away from received notions of individual consumer rights based around property and instead, operate in support of the common and alternative regimes and practices of usership (Beverungen et al., 2013; Wright, 2013).

Repairing systems: Working towards a complex theory of repair actions

Amidst the realities of decline, entropy and breakdown, repair is a *capacity* and a matter of layered, open-ended decisions about action or passivity, ‘investment’ or neglect. It is from this position that repair can begin to become operational in the politics of the present times, not only functioning simply as a proxy term for the imperative need to attend to social reproduction for those who were just recently forced to pay attention to it, but also as a tool for systemic analysis encompassing the complex totality of life.

On the one hand, repair is an entry point for speaking of the labour of tending to the ways in which temporality produces consequences. Things break, tools are used and misused, accidents happen, time flies away at even the sturdiest of materials. We inherit from modernity a number of systems that cannot think of what to do with their unwanted byproducts, waste materials, things and people that are no longer needed or whose presence was unforeseen by those systems. In the repertoire of references that stitch together this particular understanding of repair, the aforementioned work of Steve Jackson (2014) and the seminal essay of Nigel Thrift and Stephen Graham ‘Out of order’ (2007) are often cited as a starting point for reflections on the ubiquitous and incessant presence of decay in the systems that support life. What we want to contribute to that debate is an analysis of how power relations striate and complicate such initial insight. The logic that assigns the labour of tending and mending has never been divided according to neutral lines of convenience or expertise. It has always expressed so much more.

On the other hand, the value of repair labour itself is called into question. ‘What is worthy of repair?’ is not simply a question of use value (how useful or special an item might be) or of exchange value (whether it would cost less to replace something), but is a question that problematizes the relationship between these two regimes of valorisation, spelling out the problems of capital valuation and temporality as the push to reorganize life into a resource, to be optimised and streamlined for maximum exploitability (Chertkovskaya and Loacker, 2016). In other words, decisions around repairing or discarding something reveal important information around who gets to decide upon where and how to reinvest the surplus value we collectively produce. In the context of the so-called Capitalocene, the desirability of fixing specific items or to uphold partial systems in good working order needs to be critically assessed against the broader implications of such choices, beyond a narrow focus on the ‘thing’.

In her work on how to live on a damaged planet, anthropologist Anna Tsing (2015) brought attention to the crucial role of resurgence, that is, the capacity of

life to grow back after disruptive events. Arguing that this ‘life-force’ is one of the capacities we will need to cultivate in order to survive the Capitalocene, her work attests to the ways that resurgence is often borne out of long standing, symbiotic multi-species collaborations, yet is currently being severely disrupted. While material interdependence is a life-making trait, it is one that, as the editors of the *The arts of living on a damaged planet* explained, is simultaneously turned against us by industrial production (Tsing et al., 2017: 5). Drawing attention to problem of ‘progress’, that in Tsing’s (2015: 21) words ‘still controls us even in tales of ruination’, one can therefore see approaches to repair as a practice of interdependence, understood as both an essential requirement for life and yet as simultaneously something that poses a danger or harm. Donna Haraway too spoke of the task of repairing interdependence, of the ‘restoration and care of corridors of connection’ as a ‘central task’ of the communities who ‘imagine and practice repair’ (Haraway, 2016: 140).

It is from this standpoint of practice vis-a-vis the present environmental collapse that repair can be appreciated in a final sense as an urgent matter of political concern. Reflecting on the idea of the common, Lauren Berlant phrased such urgency in a cogent manner, through a passage that is fast becoming another key citation in conversations around the politics of repair:

The repair or replacement of broken infrastructure is ... necessary for any form of sociality to extend itself: but my interest is in how that extension can be non-reproductive, generating a form from within brokenness beyond the exigencies of the current crisis, and alternatively to it too. (Berlant, 2016: 393)

Berlant’s musing on the generative potential of non-reproduction gives a precise indication for a politics of repair, as the one we intended for this special issue, that is, the decoupling of social and societal reproduction (Brenner and Laslett, 1989). It asks of repair as a regime of practice the ability to reproduce the common but without replicating its conditions of production. This is a politics that insists that to repair has a profound relation with *altering*, with making other than what is – as in the classic sign put up by seamstresses and tailors anywhere: ‘Repair and alterations’. ‘Altering’ – as put forward by Doina Petrescu in her feminist reconceptualisation of spatial and architectural practices – emerged in the late 1990s by connecting Anglo-American feminist identity politics and French feminisms of difference to make the etymological root *alter*, the Latin for ‘other’, operational in practice. The concept of ‘altering practices’ (Petrescu, 2007) invites a reflection around what kinds of actions and what kind of generative co-operations can be imagined to think of political change, without relying upon the myth of ex-nihilo creation. In this sense the contingency of repair is potentially a site of *altering*, where a politics of difference can begin to take root.

Repair as *altering* finds some echoes in Eve Kosofsky Sedgwick's (2003) exhortation of engaging in critical thinking as a reparative practice. She posed reparative approaches as both an epistemological position and an ethical stance to counter the affective dimensions of suspicion and paranoia which remain the dominant traits in scholarly criticism today. Elucidating the 'paranoid' method as one that always tries to 'know everything in advance' and preempts negativity, is also one that in her words disavows 'its affective motive and force masquerading as the very stuff of truth' (*ibid.*: 138). She situates this paranoid method as *one* affective position amongst many and in doing so opens up the possibilities for 'other ways of knowing' (*ibid.*: 144). She wrote: 'A reparatively *positioned* reader tries to organize the fragments and part-objects she encounters or creates' (*ibid.*: 146). While ironically asking 'what does the critical, paranoid approach tell you that you don't already know', she proposed a reparative approach that is 'additive and accretive', namely that aims to add and to support or grow that which it is concerned about (*ibid.*: 149).

Readers will find that Sedgwick's insight resonates with the majority of the writings gathered in this special issue. While they are informed by theory, they have been written from the perspective of practitioners where the authors put themselves forward as already implicated in practices of repair. This mode of embedding the narrative voice's position into the stake of the issues being investigated is not a matter of stylistics, but it resonated with our own willingness to tend to the 'brokenness' of relations that underpins academic writing, presented in certain discourses as the only inoculation available from partiality and partisanship, the only mechanism to create a 'distance', as if the spatial metaphor could grant objectiveness. If there is a small performative gesture in relation to our subject matter in this special issue then, it will be traceable in the way it foregrounds methodologies of implication, the same way as repairers everywhere insist on the situatedness and uniqueness of each break, of each repair.

Repair matters includes seven articles, five notes and two book reviews. Taken together, they begin to map the contours of what viable 'post-growth organizations' (Johnsen et. al., 2017) dealing with quotidian aspects of everyday life might look like. They will not provide a total overview of the subject, nor a unified political perspective on repair, as this was not the ambition. Rather, they foreground the necessity to address this subject matter without recourse to a purity of solutions (following Gibson-Graham, 2006; Shotwell, 2016 and others).

Because the majority of contributions are implicated in practice and operating often locally, with people on the ground, a frequent critique levelled at such localised initiatives is that they do not necessarily lend themselves to the

imperative to ‘scale up’. While a counter point might be that ‘scaling-up’ is raised because it is the only permissible direction under a growth paradigm, we also find importance in looking beyond the scalability of identical models. Following Tsing’s (2015) nuanced critique, she points to the ways scalability enables expansion, by banishing meaningful diversity. Instead, the organisational requirements of repair can be a good place to start looking for grasping the idiosyncratic entanglements that can sustain transitions towards ecological futures at the local level, making visible the interplay between 1) care, 2) labour and property, 3) objects and infrastructures and 4) theoretical frameworks in repair.

The contributions

In ‘Repair’s diverse transformative geographies – lessons from a repair community in Stuttgart’, Benedikt Schmid explicitly sets out to explore issues of scale in the context of post-growth, post-capitalist initiatives. Bringing practice theory and diverse economies perspectives to bear on a case study of repair practices in Stuttgart, Germany, the paper proposes a non-hierarchical notion of scale and rather seeks to explore the ways repair ‘disrupts, shifts and (re)aligns other practices’. Pointing directly to the intersection of repair with capitalist economies, from the creation of new markets, new products and the neoliberal responsabilisation of externalities, Schmid points to the ambiguities of repair, complexifying them as practices, without a single intention or motivation behind them. Schmid thus puts forward a case of attention to local detail, without falling into naïve, ‘small is beautiful’ solutions.

In the article ‘Mending the commons with the “Little Mesters”’, Julia Udall provides a concrete example of what such attention to the local without localism might entail, as she examines the struggle over *Portland Works* in Sheffield (UK), an inhabited industrial building whose tenants were under threat of eviction in the face of re-development. Udall traces a history of ethical acts of care, sharing and repair as forms of social reproduction and workers’ solidarity in industrial production. In contemporary times, she sees these relational ethics and acts translated to the context of the political campaign surrounding *Portland Works*, and draws out the capacity of repair to claim and protect commons, in this case the community purchase of the property and its decommodification in an Asset lock. As a reflexive, practice-located contribution, Udall situates political potential of repair as one that can repair ‘common failures’ (Hardt and Negri, 2009).

Similarly drawing on ethnographic fieldwork, Sebastian Abrahamsson brings repair as a lens to analyse practices of saving and experimenting with food in his

article 'Food repair: An analysis of the tensions between preventing waste and assuring safety'. In doing so he conceptualises repair as a category of actions in a system that transforms an object by moving it across taxonomic boundaries. Pointing to the ways that infrastructures and logistics in the 'food system' are normally concerned with maintenance as the resistance of decay, repair in this context always involves the negotiation between reducing waste yet assuring safety. Narrating three different experimental food practices in Denmark, Sweden and the Netherlands, the article provides careful description of the material and embodied aspects of experimental food repair practices, as the moments where food waste becomes tangible and a matter to be dealt with. Abrahamsson thus shows these particular practices of repair as a careful re-negotiation of objects' value.

In 'The organization is a repair shop', Lisa Conrad offers a detailed account of organisational life in Company N., a metal-working business in South Germany. The article investigates the competing and nuanced politics of knowledge at play in re-organisational processes, specifically here the implementation of a new Enterprise Resource Planning (ERP) system. Here, Conrad brings repair as perspective and lens of analysis to consider both workers' agency and simultaneously offers a critique of technologically driven solutions to the complex problems of organizing. Repair appears as a permanent presence in the organisation, and through her appreciation of the minute exchanges and shifts that make up the texture of the workers' experience, in her words, she 'shows how struggles over power and resources are situated within the never-ending business of repair'.

Picking up on repair's intersection with capitalist economies, Frithiof Svensson introduces the case of a smartphone that brands itself as 'ethical' and specifically discusses the repair and maintenance practices of its online community of users in his article 'Repair practices in a virtual smartphone community – fostering more sustainable usage through branding'. Following insights that connect brands and brand culture to disposability and planned obsolescence, this article takes the ethical brand as a starting point, to rather consider how brands may foster more sustainable lifestyles. This paper thus goes some way to complexifying understandings of the emergence of new products for repair. Through the analysis of the product's online community of users, Svensson goes on to explore how repair and maintenance practices are grounded in alternative values that emerge around the brand as a distinctive source of significance.

The next two contributions consider instead the role of repair for knowledge production and its material conditions. In 'Against innovation – compromised institutional agency and acts of custodianship', Marcell Mars and Tomislav

Medak argue in favour of shadow libraries, as user-created repositories of digital texts that provide de-commodified access to knowledge and scholarship. In doing so, they argue that shadow libraries provide an infrastructure of support that aims to go some way to repair the uneven development of contemporary universities and the private appropriation of academic production in publishing. The article situates custodianship as a crucial dimension of collective agency, where acts and gestures of repair are located as part of a wider politics to support the reclamation and sustaining of the knowledge common. Central to their argument is the idea of the avantgarde, understood as a notion that has historically been constituted in relation to different capitalist crises and therefore takes on different meanings in practice. Turning this concept against the contemporary institutional fixation with ‘innovation’, they suggest that the avantgarde imperative is now to repair the effects of productivism and act against innovation.

Manolo Callahan in his article ‘Repairing the community: UT Califas and convivial tools of the commons’, elaborates the relevance of repair for a community organizing initiative of an alternative pedagogical praxis, Universidad de la Tierra Califas, based in California but connected with the internationalist networks of educational initiatives of the Zapatista movement. Callahan reflects on the activities of Unitierra through the lenses of indigenous politics and Ivan Illich’s theory of ‘convivial tools’, arguing that the encounters and educational framework of the initiative can be best understood as an articulation of a far-reaching reparative pedagogy, one aimed at a comprehensive transformation of the devices and objects that underpin social relations under modern industrial capitalism. The article puts forward education as one of the industrial tools ripe for being put into question and exposed as broken, before detailing a number of concrete organisational and educational practices that the Unitierra network has been experimenting with in order to mend the social fabric framing communities’ collective relation with learning.

While Callahan’s piece is rooted in the decolonial efforts of the Zapatista movement in the context of the border region between USA and Mexico, the two contributions that follow consider the repairing of civic institutions as a key political gesture in a southern Europe hit hard by neoliberal austerity. ‘The right to care: Entering outside in the southern European crisis of welfare’, by Marta Perez and Francesco Salvini Ramas, is a field note reporting from the research project *Entrar Afuera* (meaning ‘entering outside’, 2016-2018), a multi-site militant investigation around critical practices of healing and caring in three sites in southern Europe. As the dismantling of public health provisions intensified during and after the economic crisis that began in 2008, in the localities considered in the research, the crisis became an occasion for articulating an

affirmative critique of the ways public institutions of care have been traditionally organized. The authors examine how institutions sustain people's health in this critical moment by exploring the organization of the public 'territorial' care system in Trieste and with a community health initiative in Madrid. Their articulation of these institutional formations, which the authors analyse through the lens of 'infrastructural repair', is laid out around three key terms of 'threshold', 'contradictions' and 'translation', developed together with implicated practitioners to guide a series of multi-site dialogues.

In their contribution 'Repeating brokenness: Repair as non-reproductive occupation, improvisation and speculation', Gigi Argyropoulou and Hypatia Vourloumis reflect on their role as cultural organizers in Athens, Greece. Addressing the reader from the concrete standpoint of inhabiting the aftermath of a major recession, having to deal with the ongoing impoverishment of urban life as a consequence of the stripping of public resources, they ask what can take place if the condition of systematic brokenness is assumed as a starting point for action rather than as something to be 'fixed' following prescribed procedures. Their account unfolds around two initiatives that reclaimed abandoned public spaces, a theatre and a park cafe, for the creation of a number of cultural programmes and artistic activities responding to the crisis traversing Greek society and built in a collective effort with different actors in the city of Athens.

Hubert Gendron-Blais furthers this exploration of the role of reparative artistic agency vis-a-vis multiple dimensions of crisis. His approach to the notion of organization offers an original perspective by bringing music as a form of reparation to a situation of crisis and stress in political participation. In his note 'Music, desire and affective community organizing for repair', he indicates that music, made with the intention of provoking relief and support, can be an instrument of care in the context of an organized action. In contemporary activism, where displacement and burnout are common conditions, Gendron-Blais offers a meditation of the delicately balanced connection between the capacity for action and the capacity for emotion. Mobilizing the 'tools' of Deleuze and Guattari's schizoanalysis, the research offers a thick description of the processes implicated in collectivities that relate to the entanglements of different desires and psychic conditions not with an aim of fixing these, but of continued state of reparation and breakage.

Designer-maker Bridget Harvey draws on philosopher Elizabeth Spelman's work (2002) on repair as a material and cultural practice of exchange in her piece, 'Spelman cups. Attitudes to the past'. In conjunction with her own practice, Harvey posits the figure of the 'Repair-maker', an identity of both activist and practitioner that goes beyond craft, making and hacking, as one that intervenes

in what already exists. Exploring the potentials of repair-making as an anti-consumerist practice through various lifestyle identifications, Harvey works through her account of her own experience as co-founder of Hackney Fixers. Arguing that craft often lacks a political edge, she suggests that repair-making in this sense significantly goes beyond craft to focus less on artefacts and more on the ‘meaning of the actions of making’.

Remaining in the field of design and making, Serena Cangiano and Zoe Romano turn attention to the implications of repairability in their piece ‘Ease of repair as a design ideal. The authors offer a reflection on how open source models can support longer lasting ownership of, and care for, technology. They specifically investigate the intersection of design for repair and open source design. Going beyond a design-activism that often works through representations, they locate a crucial sphere of design-activism that must engage in property relations. They locate some of the recent battles around the ‘right to repair’ within both a broader yet more articulate set of actions arising within hackers, makers and open design movements. In doing so Cangiano and Romano ponder upon the role of open source fabrication of both hardware and software objects, advocating an approach to design that challenges planned obsolescence and redefines our current relationship with technologies.

The special issue closes with two book reviews. In ‘Capitalism unwrapped’, Emanuele Leonardi reviews David Coate’s book, *Capitalism. The basics*, a book that aims to introduce a range of different modes and models of capitalism. Leonardi underscores the book’s essential contribution in ‘disentangling what is *capitalistic* in the economy from what is *economic* in capitalism’ and strongly points to the book’s pedagogical value. One of the main points of contention for Leonardi, however, is that such an introduction would have benefitted from a broadening of references around a few key issues. One, of particular resonance with this special issue, concerns the definition of ‘what future is possible’, which might look beyond capitalism and the wage relation, specifically pointing to the need to address matters of degrowth

Jeroen Veldman’s review of Bar-Gill’s book ‘Seduction by contract’, examines consumer’s long-term contracts for a range of goods a services, from the disciplines of law, economics, and psychology. Analysing the characteristics of consumer contracts for a range of goods a services, from credit cards, mobile phones, TVs, insurance policies and so on, the book elaborates the ways in which contracts to seduce consumers via short term gains, but ultimately impose long-term costs. Pointing to this as a ‘market failure’, Bar-Gill proposes that a better legal policy will help consumers and improve the market. However, in relation to the theme of this special issue, Veldman argues that to see this problem only in

relation to a malfunctioning market, which could therefore be ‘fixed’ via technical means, is to miss the macro-point: namely, that such contracts are constructed and used in ways that are not ‘accidental’ outcomes of market failures, but ‘function on the basis of continuing unequal access by different classes of customers’.

Taken together, all these contributions articulate a central concern guiding the special issue: how attention to the labour of repair can extend solidarity politically and economically between human and non-human actors, creating and sustaining explicitly mutual and equitable forms of organisation, that direct themselves towards degrowth economies and ecologically diverse futures. What emerges from the diversity of experiences surveyed in this issue is that repair manifests itself as both a regime of practice and counter-conducts that demand an active and persistent engagement of practitioners with the systemic contradictions and power struggles shaping our material world. Echoing Laurie Anderson's homage to Walter Benjamin cited at the beginning, repair is torn between the desire to fix things and the difficulty of engaging with the historical drive that some have named ‘progress’. We hope that readers will find the contributions as enjoyable and engaging as we have while working through them. We would like to thank all the authors, the reviewers and the editorial collective involved in the process, for the many ways they have challenged, complexified and *altered* our own thinking around repair.

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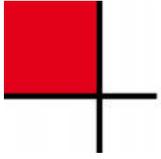
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Repair's diverse transformative geographies: Lessons from a repair community in Stuttgart

Benedikt Schmid

abstract

While repair appears antiquated in the 'disposable era' (Packard, 2011 [1960]: 55) – implying return and retrospection – its sympathizers celebrate repair's queering of capitalist growth economies and laud it as potential harbinger of post-capitalist futures (Baier et al., 2016). Against this background, the paper explores how repair practices relate to and affect social change. It offers a perspective that addresses repair's ambiguity while exploring its diverse transformative geographies. Empirically, the paper is based on ethnographic fieldwork with repair-related organizations in Stuttgart, Germany. Conceptually, it combines diverse economies' poststructural sensitivities of performativity and difference with practice theory's wariness of dualisms, in particular that of local and global. Proposing a non-hierarchical notion of scale that works through practices' spread and interwovenness the paper sets out to explore the variegated ways in which repair disrupts, shifts and (re)aligns other practices. Repair's transformative geographies are explored through the lens of five *logics* – economies, governance, communality, narratives and experiences – each foregrounding a different moment of repair's relatedness with broader practice alignments.

Introduction

Repair dates from the middle English loanword 'repairen' – to go back or to return – which towards the end of 16th century came to refer to *restoration after decay*¹. Tracing its etymology invites thinking about the role of repair in the Anthropocene. Restoration, of artefacts, bodies and social configurations, implies an orientation towards the past: a time of (perceived) intactness. Yet, looking or

1 <http://www.dictionary.com/browse/repair?s=t>.

going back jars with the modernist temporality of progress (Rosa, 2010, 2013). The tension between repair's retrospective and Modernism's acceleration provides a first entry point into the nexus of repair and world.

Modern society needs '(material) growth, (technological) augmentation and high rates of (cultural) innovation in order to reproduce its structure and to preserve the socioeconomic and political status quo' (Rosa, Dörre and Lessenich, 2017: 53). Contrary to this, cries for sufficiency, mindfulness and deceleration – often articulated as post-growth – echo in parts of academia and social movements (Latouche, 2009; Johnsen et al., 2017). Repair, in this context, is (re)discovered as metaphorical and practical impetus towards post-growth or post-capitalism (Paech, 2013; Baier et al., 2016): metaphorically, as 'repairing past [and present] injustice' (Demaria et al., 2013: 200) and practically, as 'conservation, intensification of use or extension of useful life' of artefacts (Paech, 2013: 40). Although the paper uses repair primarily in the latter sense, as 'an informed and non-random action that establishes a function of something again, meaning a function that was previously performed but somehow is temporarily hindered' (Streibl, 2017), the sensitivity for social and ecological repair in a more metaphorical sense is no less important as the paper's backdrop.

Post-growth and postcapitalism both elude a straightforward definition, for '[a]s soon as we begin to deal with what comes next, we enter the terrain of speculation, conditionality and advocacy, as well as hope and imagination' (Chatterton, 2016: 405). Keeping with Chatterton, this paper uses postcapitalism to refer to practices that 'critically intervene in and attempt to solve societal crises but in ways that foreground equality, openness and social justice'. Post-growth is closely related, since 'the end of growth challenges us to imagine what life after capitalism might look like; for an economic system in which capital no longer accumulates is no longer capitalism, whatever one might want to call it' (Skidelsky and Skidelsky 2012, cited in D'Alisa et. al., 2015: 11).

Reparieren – going back, returning – is a recurring motif in post-growth and postcapitalist debates. Latouche's eight R's – reevaluate, reconceptualize, restructure, relocalize, redistribute, reduce, re-use, recycle (Latouche, 2009: 33) – invoke a 'return to a previous condition, restoration, withdrawal', in making use of the prefix 're-'². At the same time, this observation addresses a potential pitfall of such imaginaries of social repair: the return to an intact past and a longing for a peaceful, controllable existence expressed through a naïve localism, the glorification of the past, or the reification of community (Aiken, 2017). There is a

2 dictionary.com/browse/re-

thin line between post-growth's affirmation of deceleration and the escape into a romanticized past, place or relation.

A second and related entry point to repair is its ethical and political coordinates. Post-growth or postcapitalist perspectives engage in politics of sufficiency, subsistence economies and regionalized value chains as vehicles towards deceleration and detachment from formalized growth-economies (Paech, 2013). Concomitant practices – such as repair – have the potential to create spaces of alternative economizing that are partially removed from capitalist valorization. Yet, repair does not challenge or disrupt capitalist economies per se. Rather, repair is also valorized and integrated into market economies: service industries and manufacturers of spare parts for instance have large turnovers – quite prominent in the automobile sector for instance. More recently, explicitly repairable products, such as the *Fairphone*, create new market niches. Furthermore, repair's empowerment bears moments of neoliberal responsabilization (Brown, 2015) and by extension a collectivization of capitalism's negative externalities. One might go as far as pondering whether these non-capitalist practices contribute to capitalism's survival of its internal contradictions. At any rate, examining repair's potential for postcapitalist transformation cannot be severed from a closer look at the diversity of repair practices and trailing their relatedness across scale.

This paper disentangles repair's ambiguities and sheds light on its different trajectories – offering an approach to explore repair's diverse transformative geographies. Section two joins considerations on technical and politico-economic developments to explore the decrease of reparability and the politics of its reemergence. Section three empirically traces cases in which repair matters and in which it fails, drawing on data from ethnographic fieldwork in Stuttgart. Section four, then, expands on the paper's conceptual backdrop in exploring how diverse economies and practice theory perspectives speak to transformative geographies and scale. Section five disentangles repair's diversity by exploring its transformative geographies through five perspectives on practices' relatedness – economies, governance, communality, narratives and experiences. The paper closes with a reflection on repair's role in postcapitalist politics.

Repair's ups and downs

Playing with the double meaning of 'making good', Carr and Gibson (2016: 305) expound the nexus of making, repair and maintenance. Making, maintaining and repairing suggest a continuity and connectedness in work's socio-material relations. Work as activity 'which creates use values and is qualitative

determined' contrasts to labor 'which creates value and is only measured quantitatively' (Marx, 1981 [1867]: 138). Labor's purpose exhausts itself in the creation of exchange value whereas the laborer is alienated both from the process as well as the product. 'Satisfying, imaginative and independent work' (Illich, 1973: 32), on the other hand, implies a continuity between creator and artefact that exceeds production itself, reaching beyond the practice of making and passing into maintenance and repair. Work, in other words, has a stake in the existence of artefacts that goes beyond the bringing-something-into-being and is equally concerned with *keeping-it-in-being* and restoration. Carr and Gibsons' assertion that 'a future where repair and maintenance become redundant in favor of replacement entirely misses the point' (2016: 306), then, reads as warning of a world in which labor substitutes work and artefacts are severed from the continuity the latter implies.

Decay is nothing out of the ordinary, but expressive of the entropic tendency that accompanies the constant becoming – or maybe *un*-becoming – of the world (Graham and Thrift, 2007). The more important it is to acknowledge maintenance and repair as integral parts of making. Yet, 'in acceleration society, things no longer get repaired: while we can speed up production, we can't significantly speed up maintenance and service' (Rosa, 2010: 86) – the stagnating work of maintenance or the retrospective work of repair have lost their *raison d'être*. This is reflected in a decrease of reparability (Pope, 2017) as well as in the ways humans relate to artefacts and to each other (Rosa, 2010). In the following, I will provide three short accounts on the decline of reparability; setting the stage for the variegated responses to current replacement-societies, the repair of reparability and the claim that repair (still) matters.

The first story begins with labor division and the complexification of production. From a technological-historical perspective, the increasing mechanization and differentiation of production processes are drivers of products' decreased reparability. Illich (1973: 20) argues that 'the growth of tools beyond a certain point increases regimentation, dependence, exploitation and impotence', whereas he uses the term tool broad enough to 'subsume ... all rationally designed devices, be they artifacts or rules, codes or operators'. Pertaining to repair, then, Bertling and Leggewie (2016) observe that the organizational separation of repair and production made the consideration of a general reparability increasingly less significant for product design. Value chains progressively spread geographically as well as socially – weakening the connectivity of creator and artefact. Labor substitutes work and with it centralized standards replace professional ethics. Design, development, production, customer service and disposal are relegated to different departments and then processed according to regulation. Abstraction supplants the immediacy between

subject and artefact and therewith the continuity implied in work. Maintenance and repair are severed from the productive process, no longer being integral parts of bringing something into being.

The second story centers around a postmodern aestheticization of society. Baudrillard describes postmodernity as a

culture of fragmentary sensations, eclectic nostalgia, disposable simulacra, and promiscuous superficiality, in which the traditionally valued qualities of depth, coherence, meaning, originality, and authenticity are evacuated or dissolved amid the random swirl of empty signals. (quoted in Baldick 2008, 266)

Design practices actualize postmodern aesthetics in following a logic of form (Anusas and Ingold, 2013). (Post)modern subjects, then, encounter surfaces and forms but hardly know the workings that are hidden from them (Illich, 1973). Surfaces trump depth and in doing so 'reduce...our ability to perceive the depth and scope of our material involvement with the world around us' (Anusas and Ingold, 2013: 58). Paralleling the hidden complexity of artefacts, markets conceal the social relations that assume 'the fantastic form of a relation between things' (Marx, 1981 [1867]: 165) – fetishism. In an accelerating world of surfaces, (post)modern subjects are not sculptors of their environments but (passive) participants in self-regulating markets. While product design is increasingly individualized and considers consumers as multi-sensory and affective beings, the underlying social and material relations of capitalism's relations and commodities are not intended to be penetrated, uncovered, discussed and questioned. This is epitomized by big data's algorithms that operate hidden from the shiny user surfaces of Amazon, Google and others, generating massive quantities of commodified information entangled with flows of money and relations of power. Carr and Gibson (2016: 304) deduce that this "invisibility" conspires with a growing inability and disinterest in how things are made (and consequently how they are [maintained and] repaired)'.

A third narrative incorporates society's aestheticization and technological complexification into a broader critique of modernist acceleration (Rosa, 2013). Decreased reparability, then, appears not solely as an accidental consequence of complex global value chains, specialized production and (post)modernist aestheticization, but as outcome of shortened product cycles in the name of 'growthmanship' (Packard, 2011). Economies geared towards competitiveness and profit-maximization are driven to increase the throughput of products. Durable and repair-friendly product design undermine these goals in the long run (Packard, 2011; Pope, 2017). What appears to be irrational from a material point of view, makes perfect sense within capitalist social relations: 'people must learn to consume more and more or, they are warned, their magnificent

economic machine may turn and devour them' (Packard, 2011: 22). Besides the expansion of the total of consumer goods owned on average, planned obsolescence – the 'strategy of planning or designing a product with a limited useful life, so it will become obsolete, unfashionable or no longer functional after a certain period of time' (Rivera and Lallmahomed, 2016; see also Bulow, 1986) – is a major driver of economic growth. Obsolescence of quality, function, desirability or systemic obsolescence accelerate product cycles and create opportunities for profitable business. While caution needs to be exercised as to the reach and scope of intention, there is ample evidence of products' reduced life span far beyond that what is technically necessary or desirable (Schridde, 2014). Obsolescence translates into practice for instance through the use of breakable materials, integration of weak points or counters, short product cycles, creation of fads, incompatibilities or the discontinuation of support. Furthermore, the shortening to products' life span includes the complication of repair and maintenance – through overpriced repair, lack of spare parts, inaccessibility, and prohibition of self-repair – that are made 'so difficult and unreliable that replacement is easier' (Packard, 2011: 74).

The reinvigoration of repair through repair cafés, open workshops, repairable products and online repositories, then, appears as counter-hegemonic movement with the potential to disrupt the stories and trajectories of waste, consumption and growth (Baier et al., 2016). Repair has become a frequent theme in thinking about alternative modes of economic organization. For Paech (2016), maintenance and repair are crucial cornerstones of subsistence-oriented and regional economies that ultimately reduce dependence on capital and growth-based institutions. Hobson (2016) discusses the importance of repair, maintenance and recycling in circular economies. Bertling and Leggewie (2016) take it one step further in positing the need for a 'repair-society'. And Baier et al. (2016) situate repair within the context of a broader movement that work towards 'repairing the world'. Others, in the meantime, caution us not to over-interpret the sites of repair (and related practices such as local production, upcycling and hacking) in the context of debates around postcapitalism, emphasizing the heterogeneity of these spaces (Bürkner and Lange, 2016). The next section, therefore, digs deeper into the empirical evidence on repair.

Empirical evidence

Repair cafés and open workshops have come to the fore as important sites materializing around the entanglement of repair with related practices such as making, tinkering and recycling (Baier et al., 2016; Bürkner and Lange, 2016; Smith, 2017). Repair cafés are (recurrent) meetings organized around

community-supported, decommodified repair. More than 1500 repair cafés have been established worldwide³. Open workshops parallel this development, providing an infrastructure to enable practices of repair, (local) production and appropriation (Lange, 2017). Note, however, that open workshop and related terms such as makerspace, hackerspace, and fablab refer to a wide variety of spaces that differently house inclusive/exclusive, commodified/decommodified, emancipatory/conditioned practices (Davies, 2018; Richterich and Wenz, 2017).

In addition, some (usually small) enterprises deliberately (re)introduce reparability and longevity in product design, arguably most well known in case of *Fairphone* (Netherlands). Growing Internet platforms, online collections and communities such as *iFixit* and *Thingiverse* further accompany these developments. *iFixit* hosts an online collection of repair manuals and sells corresponding specialty tools and spares. *Thingiverse* is an online collection of digital design files, amongst others for spare parts.

These developments provide the paper's backdrop, against which its empirical focus on a place-based 'repair-community' is situated. The paper's empirical insights are based on a two-year involvement with activists and eco-social entrepreneurs in Stuttgart, Germany (Schmid, 2018). Repair was a recurrent theme. With 'repair community' I am adopting a label that one participant used to describe the diverse individuals and organizations that gather around repair practices in the local context⁴.

The primary site of the project's ethnography was an open workshop. The participant observation carried out within and beyond the workshop's physical spaces included the regular attendance of repair cafés, collaboration on operational and organizational processes of the workshop, the acquisition of trade skills and the ability to operate machinery, participation in everyday correspondence and attendance of and collaboration at various events such as trade fairs, (interorganizational) meetings, workshops, panel discussions and others. Without previous training in crafts or technical work, it was challenging to participate in the community's 'doings and sayings' (Schatzki, 2016). This was compensated for by the patience with which I was welcomed. The study's ethnography is backed up by semi-structured interviews with a number of activists and eco-social entrepreneurs from the local context.

3 <https://repaircafe.org/en/about/>.

4 Here I do not use of the concept of 'community of practice' (CoP). While helpful in a number of contexts, it runs the risk of narrowing the community in this study a priori.

Stuttgart is located in the South of Germany, in a prosperous region with a strong industrial sector. Global players such as Siemens, Bosch and Daimler are complemented by small and medium sized enterprises, which account for a significant proportion of employment and turnover⁵. Situating the maker community in this context is important in at least four ways that I will formulate as hypotheses, since no systematic comparative case study was conducted. Many participants are employed by or have contact to technically oriented enterprises. Consequently, there are interconnections between the repair community and (traditional) enterprises that transpire through an exchange of skills, an exchange of materials and interorganizational cooperation. (1) Specialized knowledge and skills enable a semi-professional operation of the open workshop and other organizations, in particular facilitating a broader availability of skills and knowledge that are shared within the community. (2) Material support through more solvent enterprises helps repair cafés and the open workshop to operate on donations and a low usage charge respectively, thus being available to a broad audience. (3) Cooperation, for example through courses and team building events provides a further source of revenue with which the low entrance fee of the open workshop can be cross-subsidized. (4) Last but not least, and on a more speculative note, the broader community can be characterized by a pragmatic and non-dogmatic take on issues of sustainability and economic growth. In conversations and interviews, this was repeatedly attributed to the technologically-oriented context by participants themselves, but might reflect the sensibility of maker communities more broadly (Lange, 2017).

Repair matters...

Various forms of repair-related organizing that include non-monetized repair events, accessible permanent workspaces, reparable products and cultural interventions interlock within and without the local context. Stuttgart has several repair cafés that coordinate the spatiotemporal proximity of materials, competences and meanings to enable practices of repair, two of which were part of this study. The open workshop, *Hobbyhimmel*, thereby, is a 'natural complement' (Interview_VOI_b) in particular with respect to repair's material requisites (spaces, tools and machinery), also hosting one of the repair cafés. Being opened on 7 days a week the workshop makes repair's materials, knowledge and skills available beyond the monthly repair café events. Furthermore, the workshop's sem-professional environment facilitates and

5 i.a. for metal production, metal processing, electronic and computing devices, the bulk of revenue is generated by the cooperation of between 50-500 employees. Engineering and automobile manufacturing, in turn, is dominated by enterprises with 1000+ employees. [<https://www.statistik-bw.de/Industrie/Struktur/VG-GK-BBEU.jsp>].

enhances repair above the level of the improvised and temporary gatherings repair cafés are usually associated with (Baier et al., 2016). For instance, through 3D printing, allowing for a local production of spare parts. This becomes particularly relevant in corporation with other organizations such as *Relumity*, an eco-social enterprise that develops repairable lights.

Relumity addresses a more fundamental dimension of repair, focussing on products' reparability through design and production. Parts of the production of *Relumity LED#1*, a lamp for household use, was realized in the open workshop; not only to produce locally but also to test and ensure the local capacity for maintenance and repair:

...I can actually say that the spares are locally available – not necessarily as tangible objects, but they can be produced [by means of 3D printing] and reproduced locally. The materials are available and the means of production are available through the open workshop (Interview_U2bii; author's translation).

Due to financial reasons, *Relumity* had to discontinue the production of *Relumity LED#1* and shift its focus to business-to-business customers. Yet the infrastructure of the workshop remains in place and with it the possibility to produce spare parts. Since each customer received a manual and the electronic schematic upon buying the lamp, repair is decentralized and independent of the company's subsistence.

Frequently, companies do not provide manuals and spares. Online repositories for manuals and digital design files – such as aforementioned *iFixit* and *Thingiverse* – address this issue. *iFixit* operates its sole European branch office in Stuttgart. Its members are involved locally for example through the provision of tools for repair cafés or a three-monthly presence through a pop up store in Stuttgart's city centre⁶. *iFixit* combines commodified and non-commodified repair practices. Hosting a large collection of manuals and engaging in repair-related politics, *iFixit* has gathered a global community around issues of repair. In particular through its claims to a right to repair⁷ and its repair manifesto⁸, the network draws attention to the lack of repair-friendliness and ensuing wastefulness of mainstream production demanding improvement of product

6 'The first store of the global network *iFixit* has opened in the Fluxus mall. There, clients can learn to repair their electrical devices themselves with support [from *iFixit* personnel]' (<https://www.stuttgarter-zeitung.de/inhalt.netzwerk-iFixit-im-fluxus-in-stuttgart-im-reparier-glueck.8cc497f8-9ecb-472a-89aa-664eeerafa67.html>, author's translation).

7 <https://iFixit.org/right>.

8 <https://www.iFixit.com/Manifesto>.

reparability. At the same time *iFixit* runs a business, selling specialty tools and spares.

iFixit exemplifies how members of the community also engage in repair-related issues beyond the act of repairing itself. Sensitizing people for problems around waste and resource consumption and empowering individuals to repair are central concerns for most participants. One protagonist described the open workshop as ‘Trojan horse’ for sustainability-related practices, since users of all backgrounds with different agendas are confronted with issues around sustainability and waste – repair is actively politicized.

Some repairers refer to their activities as hacking. Hacking is usually associated with a ‘material practice that involves making a difference in computers, communication and network technologies, which may well be illicit’ (Deseriis 2015, quoted in Richterich and Wenz, 2017: 7), but also applies to ‘finding creative solutions’ (Interview_P01a) in general. Examples include the surpassing of property or licensing laws.

Other organizations are linked to the ‘repair community’ through non-commodified peer-to-peer support. This support facilitates a number of sustainability-related projects that do not revolve around repair directly. For instance, *Lastenrad Stuttgart*, an association providing a free cargo bike lending system, can maintain and repair its bikes in the open workshop free of charge – including support through the community.

... and repair fails

Yet there are many occasions on which repair fails or is rather ambiguous with respect to sustainability. Embedded within institutions and cultures of replacement, obsolescence and growth – as sketched above – repairers face products not intending (self-) repair, missing repair manuals or infrastructures, a replacement culture and other factors that lower rates of success. Besides unsuccessful attempts that ultimately result in the purchase of new products, it is difficult to assess the actual effects of repair:

... effort and emissions that are caused by the repair have to come below those caused by production [of a new product] and furthermore have to overcompensate for inferior energy efficiency to be justified from a sustainability perspective. (Bertling and Leggewie, 2016: 278; author’s translation)

Beyond a narrow focus on resources, the communal aspects of repair are equally ambiguous. Participants of repair cafés are often solely interested in the artefacts’ restoration not the act of repairing itself. On the other hand, expert volunteers

regularly lose themselves in the process, or they choose the quickest way – repair without explanation – due to time pressure.

Furthermore, the products that are intended to be repairable through the buyer face considerable legal and financial obstacles. *Relumity LED#1*, designed to allow for self-repair, requires a legal disclaimer that repair has to be guided by a technical professional. Repair related organizations, in this respect, often operate in a grey zone of liability, partly cushioned by the informal relations of the community they are embedded in. Owing to internalized costs and low-scale production, the price of repairable products such as *Relumity LED#1* or the *Fairphone* are also considerably higher than that of competitors – rendering the products exclusive to financially better-off buyers.

Eco-social enterprises' engagement with repair, therefore, is particularly ambiguous. *Relumity*, for instance, specializes in a business-to-business context while experimenting with new business models to reconcile disadvantages in cost with competitive markets. Selling a service – for instance the provision of light – instead of the materials themselves, internalizes the incentives of longevity and reparability and allows compensating for higher costs that originate in fair sourcing and local or regional production.

Transformative geographies

The presented findings give evidence to repair's revival. Yet, rather than simply returning, repair practices have acquired a distinctly political overtone. In a world, in which replacement and renewal are intrinsic to the mode of production repair in itself is rebellious in that it obstructs the movement of constant replacement. Simultaneously, repair is enacted within and alongside social relations of domination, exploitation and exclusion. The ambiguity and complexity of actually existing repair practices and their embeddedness in broader constellations requires an approach that is sensitive to repair's diversity and its scalar implications alike.

Gibson-Graham's reading for difference in a 'diverse economy' (Gibson-Graham 2006; 2008) opens ways to appreciate practices' ambiguities, contradictions and multifacetedness while inspiring a rethinking of the scales of social relations. Gibson-Graham rid economy of 'all essential content' and in doing so propose an economic ontology that is perhaps the closest it can come to non-essentiality 'without rejecting the term 'economic' itself' (Miller, 2013: 521). Such a 'weak theory of economy does not presume that relationships between distinct sites of the diverse economy are structured in predictable ways, but observes the ways

they are always differently produced according to specific geographies, histories and ethical practices' (Gibson-Graham, 2006: 71). A similar case can be made for other dimensions of social life such as politics (Laclau and Mouffe, 1985; Rancière, 1998), community (Nancy, 1991) or identity (Butler, 2006). Non-essentialist approaches to economy, politics, community and identity question the realist project that attempts to unravel the 'true' constitution and workings of each social field – and for that matter the assumption of separate fields, systems or structures. Instead, they offer a perspective that exposes the contingency of economy, politics, community and identity as performative projects.

Denying economy, politics, community or identity 'a fundamental, structural or universal reality and instead identify[ing] them as contingent outcomes of ethical decisions, political projects and sedimented localized practices' (Gibson-Graham 1996, quoted in Gritzas and Kavoulakos, 2016: 921) moves towards a non-hierarchical conception of scale (Marston, Jones and Woodward, 2005; Springer, 2014). Appreciating the continuous becoming of the world – and the work of keeping-it-in-being or restoring it after decay (see above) – situates 'the world we inhabit' in relation to the practices through which it is 'routinely made and re-made' (Nicolini 2013: 2). Practices, here, are typified forms of activity that are independent of *individual* participants, but contingent on their continuous performance, materialized in body-minds, things and artefacts (Reckwitz, 2002). Instead of 'describing the world in irreducible dualisms between actor/system, social/material, body/mind and theory/action' – or *micro/macro* – the processual view of the world as 'an ongoing routinized and recurrent accomplishment' (Nicolini, 2013: 2) challenges the 'macro-mystification' (Marston, Jones and Woodward, 2005: 421) exercised through hierarchical conceptions of scale that 'obscure those sites of ordering practices, as well as the possibilities of undoing them' (*ibid.*: 427). In contrast, 'rhizomic' (Nicolini, 2013) and 'multi-sited' (Everts, 2016) approaches aim to grasp the spread, interwovenness of repair and other practices. They reformulate scale from scales-as-levels to a geo-historically rooted nexus 'in the sense of a finite plentitude that has no dimensions above its elements' (Schatzki, 2016: 6).

A non-hierarchical understanding of scale, then, opens a window into transformative geographies by conceiving of power as transpiring through 'alignments' (Rouse, 2001: 204). Power does not reside within actors or structures but emerges through the ways human activities interlock with each other and the more-than-human world, materialize in bodies and artefacts, and become relevant in situated performances. An emergent and relational notion of power acknowledges the possibilities of transformation 'because the presence of an alignment, and its effectiveness, depend upon how the alignment is sustained or transformed over time' (*ibid.*). Understanding how power travels through

specific sites, then, 'can significantly unsettle dominant patterns, create shifts in the spaces where power is exercised and open up new and radical spaces' (Ahlborg and Nightingale, 2018: 388).

Since the paper starts from a particular practice – repair – and works its way outwards, its perspectives on scale and power grow from the multiple relations repair practices enter and are entangled in. Nicolini proposes the notion of *zooming* to bring particular practices – in our case repair – in conversation with its 'wider picture', which 'amounts to nothing more and nothing less than an understanding of the association between practices and how they are kept together' (Nicolini, 2013: 234). In other words, Nicolini's approach initiates a perspective on how repair hangs together with other practices, with a particular interest in how repair shifts, disrupts or stabilizes these alignments. Repair's diversity becomes visible by considering the different relationships it simultaneously transpires through: economic, political, communal and subject-related. Transformation, then, is understood through the ways repair practices differently relate to and transform alignments. The remainder of this paper analytically disentangles repair's interwovenness in ecologies of practice. In doing so, it explores the possibilities repair opens for *other* forms of co-existence.

Disentangling repair

Elsewhere (Schmid, 2018), I have proposed a *diverse logics perspective* to discuss the ambiguities, contradictions and compromises of actually existing forms of postcapitalist organizing. With logics I mean *patterns in the relatedness of practices*. In other words, logics are a typing of the ways in which practices hang together and therefore an attempt to operationalize and guide Nicolini's notion of 'zooming' (see above). While practices – such as repair – are entangled and aligned in multiple ways the practice formations that these entangled practices constitute are often (mistakenly) reified as fixed and bounded social phenomena (such as *the market*, *the economy*, *the state* or a specific form of community or identity).

An approach that is sensitive to repair's diversity and its scalar implications – as inspired through diverse economies and practice theory perspectives discussed above – can disentangle the various ways in which repair hangs together with other practices in recurrently (re)producing the world we inhabit. In doing so, it sheds light on the diverse roles of (apparently local and small) repair practices. To disentangle repair, I will look at repair's relatedness with broader alignments of practice through four lenses: economies, governance, communality and narratives/experiences.

Economies capture practices' relatedness through moments of creation, appropriation, reciprocity, comparison and material provisioning that are closely linked to practices such as production, consumption, exchange, and distribution. Within capitalist social relations, markets are important (yet by no means the only) forms of aligning economic practices. Markets themselves do not exist as entities but describe a particular form of practices' interrelatedness. They are best understood as 'practical accomplishments' that are 'always in the making' (Berndt and Boeckler, 2010: 565). The first perspective, then, revolves around how repair challenges markets as mode of organizing economic activities and reveals alternative possibilities.

The conservation and restoration through successful repair extends products' lifespan and reduces one (amongst several) reasons for their replacement by new commodities. Moving from replacement to repair slows down cycles of production and consumption and thus causes partial withdrawal from market-mediated practice. In particular when repair itself is de-commodified it carves out non-market spaces of renewal. Due to the complexity of globalized commodity chains (for instance of electronics) the implications spread far beyond place. This, however, is only true if repair actually prevents new purchases directly or indirectly.

Apart from slowing down globalized consumption, repair practices also contribute to shifting spatialities of production. In the case of *Relumity LED#1*, the relocalization of production goes hand in hand with repair to ensure continuity between product creation and maintenance. Repair, here, acts as a starting point to reconfigure commodity chains and product design. In other cases, such as *Fairphone*, repairable products create niches in geographically dispersed relations of production and distribution, shifting their ethical and political coordinates. New business models based on longevity, reparability and modular design thus emerge. Yet the expansion of markets of tools, spare parts or (often pricy) repairable products also reproduce or even perpetuate unjust and exclusionary economic relations. In some cases, the products' high costs exclude people and groups with little financial resources. In others, repair practices only supplement rather than replace linear economies and cyclical consumption.

In summary, it can be said that repair's economies take effect beyond the local sites they are embedded in. Bound up with global patterns of production and consumption, a local shift in economic activity challenges, replaces and shifts economic relations in some cases and aligns with established market practices in others. Repair's economies work through a variety of configurations ranging from non-commodified repair practices to new business models based on repair. They differ with respect to scope, how they address social and environmental

issues and in how far they challenge institutionalized economies more broadly. Repair simultaneously works in the context of different paradigms such as green economy, sustainable development, post-growth or postcapitalism.

Governance captures practices' relatedness through moments of rule, domination, power and norms that are closely linked to bureaucratic practices, law (enforcement), policing as well as the more informal (re)production of norms and rules actualizing relations of 'precedence and hierarchy' (Graeber, 2014). Power relations materialize in institutions – in particular states – which, however, like markets do not exist as entities but are *always in the making*. The second perspective, then, revolves around how repair aligns with, challenges, or shifts power relations and hierarchies and opens up alternatives.

Much organizing around repair is accompanied by a critique of regulations that prevent repair as well as the lack of regulations around product quality and reparability. *iFixit's* claim to a right to repair and its repair manifesto as well as the self-understanding of most repair cafés collectives show this prominently. Charter and Keiller (2014: 14) comment that 'it is noteworthy that over the next five years almost 70% of respondents expect their repair café to be more involved in campaigning to improve product reparability and longevity'. Repair-related organizing acts as lever to politicize and democratize product design and production, forcing repair into the political agenda⁹.

Thereby, the development of repairable products such as the *Fairphone* or *Relumity's* lamps provide tangible alternatives, substantiating the claims that more repairable products are technically feasible and socially desirable if legal frameworks are changed accordingly. The increasing awareness of repair, then, is starting to affect shifts towards institutionalizing and codifying reparability without, however, necessarily challenging (state) institutions as such.

Others deliberately circumvent (and subvert) formal institutions through 'hacking'. Hacks and their sharing evidence the appropriation of technologies below and beyond formal frameworks subverting proprietary rights, patents and licenses. While hacking features most prominently with respect to digital technologies – for instance as 'hacktivism' – it can also describe non-digital practices that navigate statutory grey zones around liability, appropriation of products and legal requirements for self-repair more broadly. Although, repair

9 The EU Commission considers measures to improve the durability and reparability of products (http://www.europarl.europa.eu/news/en/press-room/20170629IPR_78633/making-consumer-products-more-durable-and-easier-to-repair).

and hacking are not necessarily intended as political practices (Davies, 2018) their interaction with other practices might well be political.

A perspective on repair's interaction with (codified) norms and rules shows different ways of alignment, subversion and disruption. Much organizing around repair contains explicit criticism of the laws and regulation around obsolescence, product design, reparability and proprietary rights. Up-front this is done through campaigning and petitioning that is in accordance with legal institutions. Yet, some repair practices (in particular those described as 'hacks') ignore property rights, licenses and other regulations, undermining some of the fundamental roles of state institutions within capitalist relations.

Communality describes practices' relatedness through moments of togetherness, solidarity, conviviality, non-violent and non-hierarchical negotiation, disagreement and belonging (Nancy, 1991; Illich, 1973; Rancière, 2004). Repair practices differently engender and acknowledge togetherness. A third perspective, therefore, focusses on the cooperation, ethics, inclusion and exclusion of and through repair.

Repair cafés and other repair gatherings are collective endeavors. Offline and online communities form around repair, often connected to broader movements that work around issues of sustainability and social justice. Sites of repair, thereby, function as social catalysts putting people in touch with other subjects and different worldviews. Acting as 'Trojan horse' (B_VOIP), sites of repair undermine milieus' confines, engendering new communal alignments. Repair, therefore, facilitates the creation of (public) spaces for politics and disagreement.

Moreover, repair penetrates commodities and makes visible what is below their material (and social) surfaces. By inviting an interest in how things are made, repair often triggers reflections on obsolescence, replacement and the complex and often unjust global value chains commodities pass through. Conversations about waste, growth and sufficiency can regularly be overheard in repair gatherings. Penetrating commodities' social depth, then, prompts people to think about, discuss and practice economic being-in-common differently.

Nevertheless, although the open workshop and the repair cafés in this study work to integrate individuals and groups of different socioeconomic backgrounds, they are less inclusive across gender and ethnicity¹⁰. Also, repair's sites often see little fluctuation, and create (old and new) closures. While repair practices catalyze the politicization of community (being-in-common), they also reify, close off and

10 This is based on participant observation, not backed by quantitative data.

exclude (common being) (Nancy, 1991). In particular high-priced repairable commodities create new exclusions along socioeconomic lines and, as lifestyle artifacts, can function as tokens for *othering*.

In sum, repair practices support the building local collectives, open communities to excluded others and politicize being-in-common. In changing the relations with close and distant others, repair reconfigures communities beyond place. Simultaneously, repair-related practice (re)produces old and new lines of exclusion and identification. In particular the latter is also connected with narratives and experiences that I will explore next.

Narratives describe practices' relatedness through stories, imaginaries, meanings, knowledges, theories and concepts and are closely bound up with *experiences* that describe practices' relatedness through affects, experiencing, capacities, habits, and aesthetics. Narratives and experiences provide a perspective around (re)subjectivation, sense-making, identification and (re)adjustment beyond individual subjects. Repair, here, is questioned for its capacity to create, shift and disrupt the corresponding stories, teloi, abilities and affects.

Repair is deeply sensual and engages subjects with materials as well as their own capacities. (Re)acquiring the ability to perceive 'the depth and scope of our material involvement with the world around us' (Anusas and Ingold, 2013: 59), then, generates an awareness of artefacts' textures, properties and values and creates a shared appreciation of quality and continuity. These experiences jar with the realities of replacement and acceleration and unsettle sedimented narratives and subjectivities that go along with it. More practically speaking, experiencing repair also empowers people to appropriate technologies. In doing so, subjects acquire skills for sufficiency and subsistence-oriented economizing while experiencing a sense of self-efficacy and worth through their engagement in repair and resonance (Rosa, 2016).

Thereby, the significance of re-subjectivation extends well beyond individual participants. Organizing around repair provides counter-experiences (Gibson-Graham, 2006; Healy, 2015) to capitalism's wasteful trajectory of continuous growth. In contrast, the preserving works of maintenance and repair allow deliberation and resonance to (re)enter social relations. With it, new imaginaries about how to organize socio-material being-in-common emerge. Stories of possibility (Gibson-Graham and Roelvink, 2009) and the importance of utopia (Bloch, 1985) engender new alignments of practice based on principles of communism (Graeber, 2014). Yet, alternative narratives and experiences do not have to be affirmative and might disenchant sympathizers of decommodified

repair. Failure, frustration, and estrangement accompany and spread through repair practices just as achievement, self-efficacy and belonging do.

In line with the previous sections, a perspective on practices' relatedness through narratives and experiences encourages us to consider how specific moments of repair travel and spread across bodies, minds, and sites. Gibson-Graham maintain that changing the stories of the world is an integral part of changing the world (Gibson-Graham, 2006). On a similar note, Lee writes that the 'recognition, practice, and advocacy of these multiple social relations may make them revolutionary acts as they are genuinely subversive in gnawing away at the apparent verities and certain singularities of capitalism' (Lee, 2016: 284). In providing a counter-experience, repair can shift subjectivities (including capabilities) towards preservative forms of (economic) being-in-common.

Concluding thoughts

After situating repair practices in the contradictory temporalities of modernity, the paper proceeded to explore repair's political voices that differently speak to or against various social institutions. While, acknowledging the multiple motivations, teloi and rationalities of repair (sometimes repair is explicitly non-political), the paper focused primarily on its politics as the ways in which repair's diverse performances take effect on other practices. Inspired by the literatures on diverse economies and practice theory, a nonhierarchical notion of scale – in the sense that reality does not play out on ontologically distinct 'levels' – provided the conceptual grounding to trail how repair relates to (sedimented) practices and their alignments. Disentangling repair's diversity through perspectives on different forms of its relatedness opened windows on the power relations that transpire through the sites of repair. Economies, governance, communality, narratives and experiences provided different lenses on how repair intervenes with practices' broader patterns.

While repair is a misfit in modernist societies that stabilize through '(material) growth, (technological) augmentation and high rates of (cultural) innovation' (Rosa et al., 2017: 1), it was shown that repair is not a postcapitalist practice *per se*. Sympathetic to the transition literature that discusses the engagement in collective non-commodified repair practices as integrate part of post-growth economies and harbinger of postcapitalism, the paper proposed a differentiated perspective that acknowledges the heterogeneity of repair within these emergent forms of organizing. Repair practices have various consequences including interferences with global value chains, generation of new markets and shifts in their ethical coordinates, (re)politicization of the production, design and

appropriation of artifacts, creation of new communities and identities as well as their closure, and the development of old and new stories, affects and capabilities around different modes of economizing.

Nevertheless, the paper leaves many questions open having only touched upon some issues while ignoring others altogether. Conceiving of power as emergent and relational does not mean to ignore the restrictions individual actors and groups face in their engagement in postcapitalist politics. Like other potentially subversive practices, repair can be co-opted and instrumentalized for purposes that run contrary to emancipation, justice and equality. These issues remain important perspectives for further discussions of repair practices.

I would like to close, however, with a deliberation that returns to repair's temporalities. While jarring with modernism's acceleration, repair is at the heart of its continuation. Repairing broken things, bodies and natures patches capitalist socio-material relations that come apart at the seams. If 'precarity is the condition of our time' (Tsing, 2015: 20), the preserving work of repair is a vital part of what holds that world together and allows it to continue. Alongside the reproductive work (of birth, nursing, creation) the restorative work (of healing, care, repair) is part of capitalism's 'constitutive outside' (disproportionately provided by women) (Gibson-Graham, 1996: xxiii). Listening to the 'polyphony' of this restorative work 'to appreciate the multiple temporal rhythms and trajectories' (Tsing, 2015: 24) is a stepping-stone towards the (re)politicization of the economic and the enactment of other worlds.

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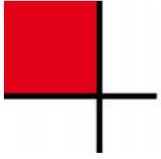
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Mending the commons with the ‘Little Mesters’

Julia Udall

abstract

The subjects of this paper are the ‘Little Mesters’ of Sheffield, UK. The Mesters are self-employed master craftspeople whose day-to-day work is dependent on repairing, recycling, and maintenance, in ways that are intertwined with the urban fabric, flows of goods, and collaborative manufacturing spanning generations. This long-established, yet fragile web of mutuality and reciprocal practices of repair by highly-skilled workers is under threat from enclosure, and yet, I argue, simultaneously offers possibilities for reclaiming the commons. Through collaborative mapping and activist work with a campaign group over eight years, I examine an instance of existential threat to a factory, Portland Works, home to Little Mesters. Through strategies of distributed design prompted by this threat, cultures and practices of repair have been harnessed, and repair has become politicised, dispersed and future-orientated, prefiguring the post-capitalist city. The enclosure of commons is particularly spatial and material, and therefore disruptive of certain more egalitarian forms of relating and organising; politically, economically, pedagogically and ecologically. I argue that practices of repair found in this instance offer possibilities to address such ruptures, through the ethical decisions they prompt, the assemblages they generate, or gestures of care they manifest. Repair is often conceptualised temporally, as an activity that returns something to a former state, yet I wish to assert its spatial and material agencies; as productive of spaces and relations, dependent on them, and potentially restorative of them. In doing so I claim its value to support the reclaiming of ‘common failures’, the amplification of existing instances of commoning, and the development of heterogeneous networks of commoners.

Introduction

This paper proposes that repair can be understood as a locus of collective agency for transition to a post-capitalist world. In doing so, I argue that certain acts of repair might be understood as prefigurative of and amplifying the production of

the commons. Commoning and commons are understood as offering important areas of contemporary research and action for those who seek to move beyond neoliberalism and remake the world in ways that do not hold competition and financialisation as a defining characteristic (De Angelis, 2017; Hardt and Negri, 2009; Linebaugh, 2008; De Angelis and Harvie, 2014), and indeed refuse the notion of property entirely (Hardt and Negri, 2017; Jeppesen et al., 2014). Such work to redefine our socio-political imaginaries and make new relations must necessarily engage with the question of how capitalism seeks to enclose shared resources in its constant need to generate new markets and consumers (De Angelis and Stavrides, 2010). In exploring this, I wish to begin from a point that understands the enclosure of the commons not just as synonymous with privatisation or commodification, but as spatial (Sevilla-Buitrago, 2015; Stavrides, 2016), and material. Enclosure is therefore disruptive of certain more egalitarian forms of relating and organising in the city; politically, economically, pedagogically and ecologically. I contend that certain practices of repair offer possibilities to address such ruptures, through the ethical decisions they prompt, the assemblages they generate or gestures of care and maintenance they manifest. Repair is often conceptualised temporally, as an activity that returns something to a former state, yet I wish to explore its spatial and material agencies (Lepawsky et al., 2017: 56-57), and in doing so, conceptualise it as transformative.

The subject of this consideration are the 'Little Mesters' in Sheffield, UK; self-employed master-craftspeople, whose day-to-day work is dependent on repairing, recycling, and maintenance, in ways that are intertwined with the urban fabric, flow of goods, and collaborative manufacturing that spans generations and transverses the city. This long-established, yet fragile web of reciprocal practices of repair and maintenance by highly-skilled workers is both under threat from prevalent forms of enclosure, and simultaneously offers possibilities for prefiguring the post-capitalist city. I set out the kinds of capabilities, relationships, and understandings developed within such acts of repair, which I propose can contribute to the achievement of commoning agencies, the amplification of community economies and the reproduction of the urban commons. I wish to consider how such ways of working embody, and hold the potential for new forms of affiliation and transformative spatial practices.

Portland Works, a struggle for survival

Portland Works, the site of this study, is a Grade II* listed¹ cutlery factory, where the livelihoods of its metalworking tenants, the Little Mesters were threatened by its potential closure and conversion into residential accommodation. The Works and its immediate neighbours are also home to various bands, recording studios and record labels, including some with global profile. Over its 130-year history it has housed hundreds of makers, some for generations, and two current tenants for over forty-years. The micro-businesses who rent space rely on personal relationships to provide informal training, and repair machinery and tools. Portland Works represents a 'diverse economic' landscape, with wage labour, self-employment, borrowing and lending and in-kind transactions part of its everyday (Gibson-Graham, 2008; Gibson-Graham, Cameron and Healy, 2016).



Image 1: Portland Works, Sheffield, UK, 2010, Martin Pick

In 2009 the landlord of Portland Works submitted a planning application for a change of Use Class² from industrial to residential. If successful, this change in

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- 1 This is a UK conservation status for buildings of 'more than special interest'; 5.8% of listed buildings in the UK are Grade II*.
 - 2 In the UK 'The Town and Country Planning (Use Classes) Order 1987' categorises different types of land and building according to their uses, such as industrial,

designation would allow him to evict long-standing tenants, many of whom would have had to close their business as a result. Some would not have been able to continue due to the lack of suitable affordable manufacturing space within the city. For others, including the toolmaker who forges using a drop-hammer that had been in place since the building was built in the 1870s, and the cabinet maker who had invested in installing heavy machinery on the first floor, the cost of relocating was prohibitive³. Those who could have relocated more easily, often had strong emotional attachments to the site, such as a knifemaker using his cutler parents' workshop and tools, or others, closer to retirement age, for whom there seemed little point in starting again away from friends, collaborators, and workshops they love. For neighbouring businesses, the fear was that the change in planning classification would result in prohibitively high rents, driven by the consequent increase in property values, and restrictive noise and traffic regulations that could be imposed in retrospect.

The landlord's assertion of his property rights over tenants' use rights made visible the violence of property laws and planning regulations in ways that had not been tangible before. The Mesters' seemingly reasonable demands to continue their tenancies begun far before the current landlord took ownership, and retain the value they had built into their businesses, were disregarded. This moment foregrounded the question of who had the right to use and claim this space and how, and in doing so began to alter subjectivities. Those who would not previously have affiliated themselves with left-wing causes or explicitly considered their day-to-day activities as potentially outside of capitalism, shifted their positions and sought to explore radical ownership approaches for the site. It became clear that the ways the tenants worked and what they valued were incompatible not just with this particular landlord, but ultimately with a marketised valuing of the land. Even if this particular planning application was defeated, another could be successful in the future. Increased rents would compel the businesses to cease trading or to make greater profits that would necessitate fundamental changes to their business model and ways of working.

Massimo de Angelis observes that 'the extent to which we are aware of enclosures is the extent to which they confront us' (De Angelis, 2007: 144). He goes on to argue that such crises do not always lead to a closing down, and a desire to merely look after oneself, but can be productive moments, of a set of

residential, retail and so on. Generally, planning permission is required from the Local Authority in order to change the use class of a building or land to another use.

3 Toolmaker Andrew Cole calculated in 2009 that it would cost him £250,000 to relocate his business, a sum which was unaffordable given his profit margins and proximity to retirement.

demands (negative or positive), and ultimately of change. This was the case here, where many Mesters, artists and musicians both within the walls of Portland Works and beyond recognised their interdependence and the threat to certain values and ways of working. The result was a campaign that combined a fight against gentrification and the creative development of alternative proposals for the site. In 2013 Portland Works was purchased by over five-hundred tenant and community shareholders along with the implementation of an asset lock⁴ (Community Shares, 2018), which would prevent its demutualisation. The site was taken out of the speculative property market, and transformed into a non-commodified community asset. In this paper, I argue that this was possible, in part, because of the existing cultures of repair.



Image 2: Shareholders celebrating the community purchase of Portland Works 2013, Karl McAuley

A design-activist approach to research

This research can be understood as both a creative, critical endeavour, and as activist. It is activist in the sense that it is directed towards overt political goals,

4 An asset lock is a legal clause that prevents the assets of a company being used for private gain rather than the stated purposes of the organisation. It would require shareholders to dispose of assets with another mutual organisation with similar stated aims.

mutually defined between myself and many others who are directly subject to those conditions which we seek to change (Hale, 2008; Speed, 2008; Gordon-Nembhard, 2008). Entwined with this are practices and concepts drawn from activist design and architectural research projects such as *aaa's* EcoBOX and R-Urban (Petrescu, 2005, 2012; Petcou and Petrescu, 2014; *aaa*, 2018). To design in such a way is to seek to distribute agency and acknowledge that designers are always operating in interdependent and spatially configured economic, social, political, technical and cultural networks (Holert, 2011). To design in these conceptualizations means to try to get something transformative done together, and this process reveals resistances, capacities and relations that, when embedded in a research project, also allow for collective critical insights to be formed.

Design-activist research takes time, attention and commitment. My involvement at Portland Works has been over a decade, in changing and often blurred roles, both within and outside of the academy, as an Architecture student, PhD candidate, community architectural researcher, citizen and architectural practitioner. Certain opportunities and constraints were created by having the responsibilities associated with multiple roles, both to myself, the institution which funded my PhD, those tenants and campaigners with whom I am working with, and in a legal capacity once I became a director of the community benefit society⁵ that governed Portland Works. I actively chose to adopt and move between these positions, and in doing so I could examine, explore and expand the capacities produced by each. This is a form of reflexivity that, rather than focus on the researchers' identity, seeks to examine the processes and structures that shape the encounter and fieldwork, cognisant that the context for each of the actors is different (Nagar and Geiger, 2007: 270).

This approach gave me insight into many aspects of the day-to-day life, in-depth, over a long duration; the material, spatial and organisational, as well as emotional and motivational. It gave me insight into how change could happen. This breadth and depth of understanding *how* things happen is crucial if we understand the possibility for change through theories of prefiguration (Maeklebergh, 2011; 2016; Yates, 2015; Graziano, 2017). Boggs defines prefiguration as 'the embodiment within the ongoing political practice of the movement, of those forms of social relations, decision making, culture, and human experience that are the ultimate goal' (Boggs, 1977: 100). Rather than

5 'Community Benefit Societies', formerly called 'Industrial and Provident Societies' are registered societies 'owned and controlled democratically by a variety of stakeholders, and operates primarily for the benefit of a wider stakeholder group' (Cooperatives UK, 2017).

working from an abstract ideal of how the political *should* work, prefigurative approaches valorise politics that emerges within, and as tested by people's realities, capabilities, desires, understandings and situations. In such politics the everyday is understood not as mundane, or trivial background to 'bigger' political decisions, but as offering important insights into power, modes of organising, issues of concern, responsibility and care.

My account of this case as outlined here is drawn from twenty mapping interview sessions with ten key members of the organisation (five of whom are tenants), and through documenting actions, stories and conversations which span over eight-years. In the mapping interviews, participants were invited to describe the tools we collaboratively developed to create 'commoning agencies' (discussed below) and to define and achieve an emerging common project. To enable the accounts to be developed and refined collaboratively, my descriptions and analysis have been 'taken back' through inviting people formally to add to and modify the mappings, through formal and informal conversations, and finally to review drafts of written work (both academic, and in other forms such as mappings, diagrams, drawings and reports), where my interpretations were set out. The aim was not to produce a single defining narrative, but rather to draw out and collectively produce multiple, sometimes contradictory, sometimes overlapping understandings, meanings, visions and approaches, and to understand the site and processes in their complexity. The validity of our findings was tested in part by the usefulness of what was produced in supporting our collective struggles and aims, and contribution to a transformative project (Hale, 2008).

'One great workshop', the commons in Sheffield

Sheffield has an industrial, economic and cultural history that is reliant on particular forms of commons that constitute the city and its spatial relations. It is important to understand this history, and the role of repair within it in order to comprehend why the campaign to save Portland Works, and the livelihoods of its Mesters, required moving beyond solutions offered within the market, (the reclaiming of common value by those who produced it) and to reveal the embedded commoning practices that supported such action (commoning agencies). Repair and maintenance are key here in the production of the commons and its sustenance; in exploring this here I set out the different motivations, capacities and subjectivities that prompt and support such acts.

The spatiality of repair in Sheffield: as craft, of tools and machinery, through DIY

The industrialisation of the UK led to the development of its urban landscape, with cottage industries increasingly being replaced by large-scale factories employing semi-skilled or unskilled workers. In contrast to this, Sheffield continues to be known for its self-employed skilled master crafts people; the Little Mesters, and its small scale ‘flatted factories’, often growing from a single unit into a courtyard building over time (Beauchamp et al., 2002). First documented in the 14th Century, the Little Mesters are cutlers, platers, engravers, knife-makers, forgers, and toolmakers (Hamshere and Pettifer, 2015). In the 19th century, the city of Sheffield was branded as ‘one great workshop’ because the industry had grown up in small workshops by the rivers that powered the waterwheels, and in houses, with goods carted between sites, and with this forms of sociality upon which production depended:

We must regard it as *one great workshop* for the production of cutlery and edge-tools – a huge factory which scatters its separate departments in different parts of the town, but still retains them all, like so many links in a chain. (*The Penny Magazine*, 1844, in Wray et al., 2001: 30)

Mesters relied on one-another through necessity, proximity (spatially or familial), and, also because of growing friendships, mediated through apprenticeships, processes of making, and an energy source. The quality of what they made, and the need to be frugal, led to the evolution of sophisticated practices of reuse, repair, and recycling that remain today.

In the mid to late 19th century, the advent of steam power led to the Little Mesters relocating from workshops along the rivers and valleys to the city, into integrated factories developed by wealthy entrepreneurs, who sought to bring the processes of production spatially closer together. The independence (from employers) and interdependence (between craftsmen) of the Mesters largely remained, as Mesters rented their own workshops in the factories organized around a steam engine and shared central courtyard. At this time, Engels remarked ‘In Sheffield wages are better, and the external state of the workers, also [...] although certain branches are to be noted here for their extraordinarily injurious influence upon the health’ (Engels, 1969 [1892]: n.p.). Mesters would work together for larger or more complex orders with, for example, one Mester forging the blades, another grinding, another yet the handles, and ‘buffer girls’ finishing the knives. ‘The manufacturers were able to respond quickly to a specialist and perhaps short-lived demand without requiring large capital investment, and the craftspeople enjoyed their freedom to work for any employer, and were not at the mercy of a single employer’s fortunes.’ (Wray et al., 2001: 32-33) This also meant that the

tools were owned and selected by the Mesters, and the repairs to machinery and workshops were their responsibility, rather than employers.



Image 3: Ray, Wigful Tools, 2011, Martin Pick

The goods produced by the Little Mesters were of the finest quality and expected to last generations. Apprenticeships began with learning how to repair an existing item, rather than making something from scratch, with the notion of repair embedded in production. The Mesters expected to be part of their products' maintenance, as an aspect of their often informal contract of sale, which created and relied upon particular forms of sociality between producer and consumer, goods and craftsmanship expertise. Repairs were essential to the functioning of the business, yet hidden behind closed-doors.

Profit margins were tight, and the relative expense of the materials led in the first instance to precise and frugal use and secondly, the reuse and recycling of waste and off-cuts. The workshop, where specific tools, materials and fittings are available to hand, enabled or restricted what could be made or repaired; its

precision, materiality, its scale and complexity. Mesters would be engaged with 'piece work', where on a Friday if they did not deliver to a quality deemed good enough by the commissioner, they would not get paid. Practices of mutual support, such as repairing machinery, ensured that work could continue if a machine broke down, and people could get paid, and afford to eat (Mitchell, 2012). Faced with a precarious situation, this created inter-reliance between micro-businesses and individuals, and material-economic acts that exist on the edge of the wage or market economies, flows of materials and the creation of spaces of repair.

Manufacturing remained a successful industry in the city up until the late 1960s, with the 'Made in Sheffield' brand being known globally as one of high quality. In the 1970s, the combination of the global oil crises, the privatization of a number of key public industries upon which Sheffield depended, alongside competition from Asia, led to the rapid decline of manufacturing in a short space of time, with the city going from virtually full employment to losing 50% of industrial jobs (Power et al., 2010: 13). During this period, many factories were demolished, machinery scrapped and skills lost. This led to a reduction in apprenticeships, an aging skilled cohort, and in many places the production of inferior-quality goods that were cheaper to replace than repair. The ensuing model of production was often reliant on low wages, and poor working conditions for those far removed from their consumers and a model of consumption that requires the continual replacement of goods.

At the same time as manufacturing was diminishing, Sheffield's DIY music and art scene was growing and becoming more prominent; artists and musicians moved in side-by-side with the remaining Mesters, taking advantage of the cheap newly vacated workshops. Over the next two decades the grid of streets surrounding Portland Works was reputed to become the largest concentration of music studios in the north of England. With these new tenants in the Mesters' factories, came the ad-hoc practices of repair, maintenance and adaptation of the buildings, and the DIY organization of events, gigs, parties and exhibitions, often opening studios to the public. Artists and musicians converted workshops into recording studios, venues, and art studios in frugal and creative ways, often through in-kind activities, or informal skill swapping and practices of mutuality.

The influx of the new tenants operated as a hidden support system for the Mesters, generating enough rental income to prevent further demolitions or repurposing, enough trade to retain some local pubs, cafes and shops, and the maintenance of the fabric and spaces of the factories which were not maintained by their landlords. 'DIY' work was carried out by people with low wages, and within and against an increasingly controlled and homogenised city landscape.

This political and creative work, associated with punk and post-punk music and artistic subcultures, involved the maintenance and repair of accommodation. This allowed for its affordable use for hosting events and creative production, extending what was possible in these spaces including activity that was not catered for by the market. It developed capacities and relations amongst a small but active community.

The student population at the city's two universities grew rapidly in the years that followed and the sell-off of university student accommodation in the suburbs corresponded with an increase in developer-led student housing in the city centre. During this period, considerable pressure was placed on rents in an area of the city centre which had previously been cheap. Larger commercial developers with little connection to the city began to purchase factories from landlords who were previously owners of metalwork firms and had personal ties to industry and the Mesters. Much greater profit margins were sought from the commercial developers, and achieved through the planning process of changing land use class. The arts and music cultures and the DIY practices were also vulnerable to the property market, both in terms of increasing rental costs, and the tenancy agreements which of increasingly risk averse and hands-off property management companies, as well as zoning and rental policies. Demolition and redevelopment of the city centre forced relocations of many artist and music studios (Rousseau, 2009). Although ostensibly more mobile than the Mesters with their heavy machinery, constant relocation could take its toll, and with each iteration the space available both generally and especially for 'messy' uses was reduced.

The elegant but deteriorating Portland Works became a key target for conversion to residential accommodation. The developer's planning application would close Portland Works as a factory, and aimed to be the catalyst for the transition of the wider area from a flexible-use area (that allowed for the breadth of current industrial and cultural functions) to residential (which would prohibit or inhibit them). Those neighbours who relied on Mesters at Portland Works for support, or through collaborative work would also be under threat. When understood at the scale of a city or region, this was a relatively small number of businesses, with small profit margins and relatively few employees; a loss of something which was portrayed in the planning application as unsustainable. Drawing on ideas of social production and the commons I wish to argue for its value being much greater.

The making, enclosure and remaking of the commons in sites of work

To understand the potential of this site is to begin with the notion of social production (Engels, 1970; Hardt and Negri, 2017: 144). In 'Socialism: Utopian and Scientific', Engels observed that unlike medieval society where people largely made things for themselves or their families, under capitalism, the process of production of commodities requires social relations, and also shapes them (Engels, 1970). In Sheffield, production did not occur in great factories under the control of the factory owner, but across the city in small workshops of the self-employed Mester, thus also forming material flows and shaping the landscape and architecture. Gentrification poses an immediate threat to these forms of social production because in the process of displacement and erasure it severs networks and relations that must be established over space and time. This is a threat to intertwined cultures of maintenance and repair, and consequently the forms of production which rely on them.

In 'On the Commons' Massimo De Angelis proposes that there has been a failure in many readings of Marx to understand that the process of enclosure was not a one-off occurrence, consigned to a single point in history, but rather a repeating process central to capitalism. He argues that if we can shift our understanding of primitive accumulation, we can also shift our understanding around social production and the common, and move away from an understanding of capitalism as the dominant relation:

[...] people do reconstitute commons anew, and they do it all the time. These commons help to re-weave the social fabric threatened by previous phases of deep commodification and at the same time provide potential new ground for the next phase of enclosures. *To me, however, it is important to emphasize not only that enclosures happen all the time, but also that there is constant commoning.* People again and again try to create and access the resources in a way that is different from the modalities of the market, which is the standard way for capital to access resources. (De Angelis and Stavrides, 2010, my emphasis)

This is a significant observation which puts the common both as produced by, and as mediating our relations. It prompts us to rethink how we value the commons, understanding it as both essential to keeping the capitalist economy afloat through its role in social reproduction, yet at the same time, offering ways to move beyond market-mediated relations.

In Sheffield, we can understand the persistence of these particular forms of social production over generations, despite processes of gentrification and enclosure, as part of a fragile re-weaving of what has been lost. The later arrival of the artists and musicians, literally and figuratively occupying gaps, in buildings, workshops and social relations also works in this way to rebuild Mesters'

commons that have been threatened, lost or enclosed. Yet rather than conceive this repair work as a way to keep Mesters' businesses going within the capitalist economy, we can understand it as potentially prefiguring a different set of economic and social relations; the commons. As Michael Hardt and Toni Negri suggest, 'Rather than see the common in the form of externalities as "missing markets" or "market failures", [...] we should instead see private property in terms of "missing commons" and "common failures".' (Hardt and Negri, 2009: 283). At Portland Works, such a shift seemed to be essential to the community of Mesters, artists and musicians who were faced with an existential threat. Our shared question was how such a transformation could occur.

Commoning at Portland Works: designing with and from cultures of repair

What follows is a description of a selection of the hundreds of designed 'tools'⁶ within the campaign to *Save Portland Works* that were produced by campaigners, and enabled people to reclaim the commons and gain commoning agency. (Udall, 2016). They can be understood as drawing upon, or part of the cultures of repair outlined above as present in Sheffield. There were three overlapping stages in the campaign; firstly, the work to oppose the landlord's change of use planning application, secondly, forming a constituency of commoners and common concerns, and finally the reclaiming of non-commodified resources and ongoing processes of commoning.

Opposing the planning application for change of use

To make a successful application for change of use for a Grade II* listed building the landlord had to prove that the existing use was 'no longer viable'. He submitted photographs showing the building as empty, plans omitting all present fixtures and fittings (which legally formed part of the Listing) and a Sustainability Statement arguing that the 'businesses were no longer economically viable due to competition from the Far East' (Sheffield City Council, 2009). To address this, the campaign had to do three things: raise awareness of the application and invite people to oppose it legitimately, prove the 'viability' of the site as industrial and demonstrate its historic and architectural value⁷.

6 Interviewees described over 250 'tools' that operated to transform the situation and grant agency to the commoners.

7 Establishing the latter two points would compel the retention of an 'Industrial' use class.

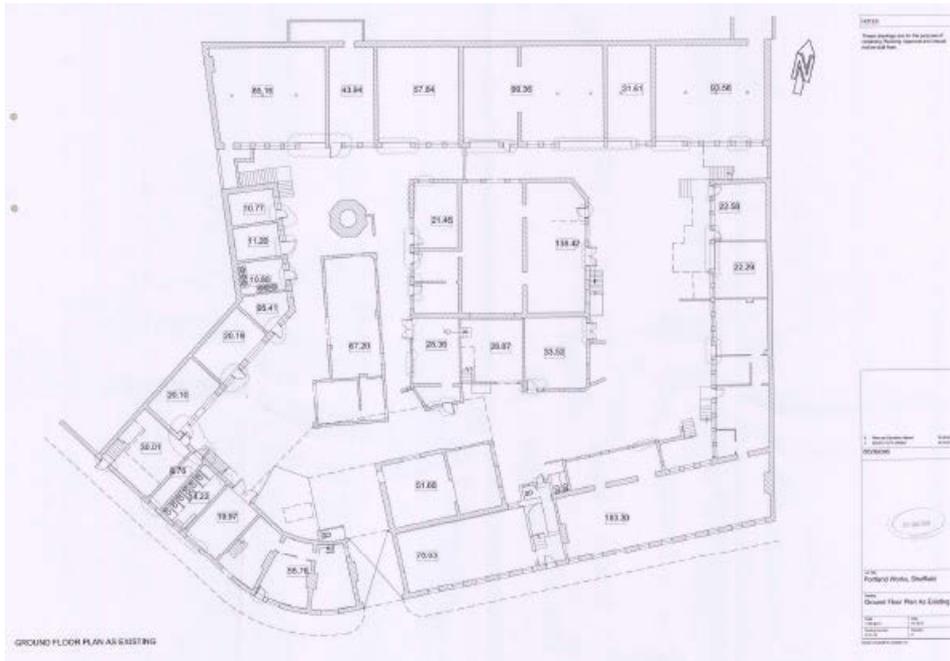


Image 4: The initial planning application for change of use, 2009, Sheffield Planning Portal

In direct response to the planning application, an emerging group of local photographers, both amateur and professional, held an exhibition about Portland Works. Hosted at a stall at the city's main market, (a place frequented by people with direct connection to the metal trades), they invited visitors to take photographs of Portland Works, exhibit them, and share stories. Those instigating the exhibition sought to raise awareness of the threat to Portland Works and the incredible skill and diversity on site. This repair activity recognised the spatial and social disconnection between the planning portal⁸ as the official site for democratic engagement and the people with good claim to being heard. In opening-up participation in the exhibition, which became a bricolage of images from many authors, the hosts offered the possibility for new narratives and allowed for many interpretations to be placed into dialogue. Images were offered freely by dozens of professional and amateur photographers; open-access digital copies became a shared resource for the campaign over the years ahead. Repair here is a practice of bricolage, exemplified in opportunistic DIY approaches to adapting existing sites for hosting music and art events.

⁸ In 2002 the UK government set up a website, the planning portal, through which both planning applications and applications for building control can be made electronically to local authorities.



Image 5: Castle Market Photography Exhibition, 2010, Brian Hodkinson

It was crucial to mobilise opposition to the planning application within the immediate neighbourhood, as voices that formally have greater legitimacy within the planning process. This was hampered by the fact that from the surrounding streets the Works appeared derelict, Mesters no longer lived in adjacent streets, and customers tended to be national and global. Posters were produced featuring photographs of the Mesters, artists and musicians in their studios and workshops with their names, profession, tools and machinery. Large-format

versions were pasted to the front elevation of Portland Works and two-hundred photocopies were distributed to the shops and takeaways on the district high street. The Mesters became recognisable ‘faces’ of the campaign and a shared web address created a central point of contact. This was crucial in signalling Portland Works as being somewhere that was part of the communal fabric of the neighbourhood. People, tools and machines were foregrounded, showing the site as a place of work. This repair work to the façade sought to address the rupture caused by the developer drawing a ‘red line’ of ownership around the site, where the space was understood as an ‘empty’ and abstract commodity, rather than produced by and in relation to those who occupied it.



Image 6: Posters of the Little Mesters, 2010, author

Amplifying relationships between makers and forming a constituency of commoners

Under the current landlord the building had fallen into considerable disrepair and was not safe for public access. The external metal steps leading to the communal artists’ studios were dangerous. A toolmaker tenant carried out this repair, making it safe to open their studios to the public. Public access allowed visitors to understand the practices and day-to-day life of the site, meet people who worked there, as well as get greater insight into the threat posed by the redevelopment. In repairing the steps, the toolmaker used his skill, and access to

tools and materials, and in doing so made a relation between the metalworkers and the artists. It was an act of care from one person to the artists borne out of kindness, and a desire to enable a shared goal. Prior to the campaign, many of the tenant artists, musicians and metalworkers did not have personal relationships, working independently within their own fields, studios and workshops. Through a series of open days and exhibitions, held both on and off site, the tenants got to know one another on the basis of their skills. Artists taught metalworkers how to curate exhibitions, and metalworkers offered lessons in how to weld to artists. These exchanges not only expanded the skills of individuals, but also the capacities of the campaign and site for creative activity and production.

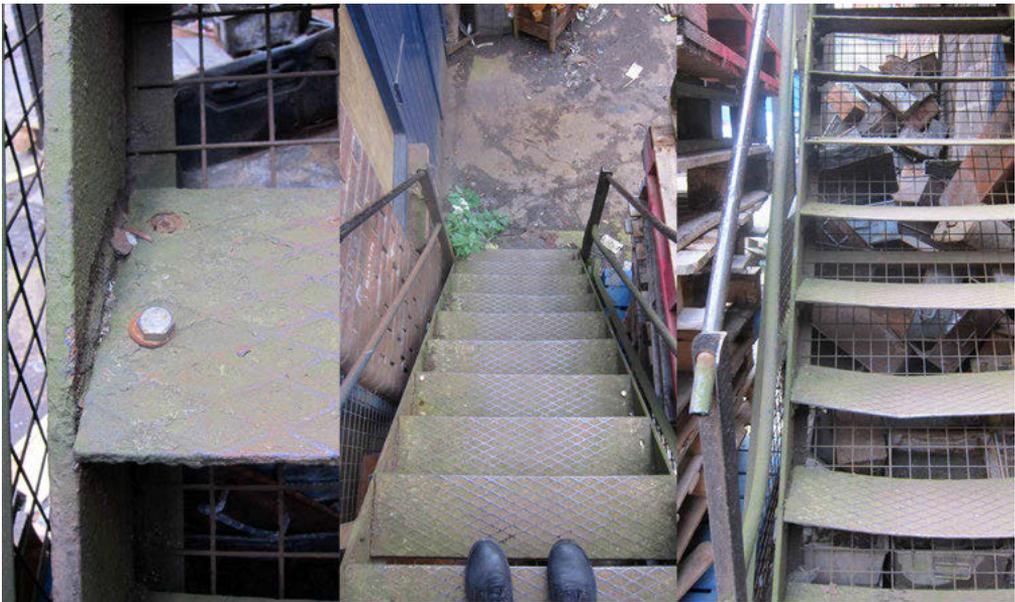


Image 7: Repair to Steps, 2010, author

A collaborative conditional survey of the building was convened to draw on the working knowledge of tenants, such as where the building was damaged, how spaces were used, and what was valued (such as beautifully detailed brickwork, or fixtures such as hammers still used for manufacturing). This work intertwined with establishing courtyard clean-up days, bringing together tenants and volunteers to clear waste, and make the site safe, and publically accessible. One repair was to the toilet in the courtyard, which had been derelict for years, and combined unskilled and semi-skilled labour, including plumbing, roofing and pointing. This work demonstrated the commitment of volunteers to get down-and-dirty in jobs such as cleaning out the sump, and built trust and friendships with the Mesters. This repair work acknowledged the need for places of

interaction between tenants, many of whom did not yet know one another, and also the necessary opening out of Portland Works for cultural events and open days.



Image 8: Chris and Martin cleaning the sump, 2015, Colin Harvard

Developing the site as an urban common, and commoning

The collectively transformative aspect of the project, *where it became common*, was the moment the assets were taken out of the market and placed into the hands of ‘the commoners’ through the asset lock and the formation of the community benefit company. To take on this responsibility required the development of commoning practices of learning and democracy (De Angelis and Stavrides, 2010), and the development of mechanisms to care for, produce and change the site in line with evolving needs and desires. In 2010 a workshop was held with key campaigners, tenants, funders and stakeholders (Cerulli and Udall, 2011). By

the end of the day there was an agreement to purchase Portland Works through a community share issue. The key advantages of this approach were cash for the purchase and repair of the building, an asset lock that would prevent it being demutualised, the ability to draw on a diverse pool of skilled support for the project, and the formal requirement for democratic structure of governance. Shares were sold at £50 for tenants and £100 for others, on the basis of a one member one vote. The asset lock required any increase in land value derived to be reinvested within the organisation (or one with similar aims) rather than extracted as profit by the shareholders. The Share Issue provided additional funds that were available for communally determined priorities, rather than having to follow a funder or donors' wishes. The resultant five-hundred shareholders provided significant expertise and capacity, and to a great extent those who did the work for the campaign also made the decisions. This was organised through publicly open steering group meetings to develop vision and strategy through a deliberative process. A number of smaller working groups comprised of shareholders, volunteers and a minimum of one director were tasked with developing responsive tactics and day-to-day work, reporting back to the steering group. This formed a framework that facilitated practices of repair working with and from the site.



Image 9: The post-box, 2011, author

To register as a community benefit company, a Portland Works postal address was required. An engraver tenant who had worked on site for 40-years repaired a defunct postbox in the entrance archway and engraved a sign for the organisation, establishing a company address. The care and skill with which, unprompted, the engraver carried out this repair work visibly demonstrated support. Located within the entrance arch, the spatiality of this was also of significance; it gave the campaign a prominent physical presence. Its production could be understood as acknowledging an emerging organisation comprised of both tenants and non-tenants.

A small grant was obtained from the Architectural Heritage Fund by social enterprise architecture practice Studio Polpo on behalf of the campaign. The funding was to carry out architectural design work to address immediate maintenance and renovation work, and to develop future plans. Rather than design a single scheme, or set of deterministic instructions for what should be done in which order, the architects' proposals were instead produced in such a way that would allow tenants, directors and working group members to negotiate emerging priorities. The drawings operated in a way which allowed comparison between the cost of repairing roofing in an existing workshop against adding a new fire stair that would bring a floor of a block into use, and therefore increase rental income. The drawings also set out the level of disruption the proposed work would cause to each business, which was crucial for those that could not afford to be inoperable for any length of time. Frank discussions could be had as to whether improving the spaces for existing tenants or bringing new tenants in should be prioritised, and allowed exploration of how each decision would bear out in terms of the business plan and the financial stability of the organisation.

The drawings were aimed at volunteers, who, having been trained up by a retired builder, were carrying out significant elements of the refurbishment work. This was a carefully considered tool that made the building repairable and reconfigurable in response to changing needs and relations.

Designing with cultures of repair to prefigure the commons

Each of the instances of repair set out are at once productive of spaces and relations, dependent on them, and restorative of them. Whilst some instances are literal moments of repair and others conceptual, each draws on wider cultures, ethics and practices of repair that have evolved over generations, and each has implications in terms of how space and relations are produced and reproduced within the city. Repair activity was threatened by gentrification and enclosure, but, by valorising, mediating and extending these practices, there is the potential to reclaim 'common failures', form constituencies of commoners and amplify existing instances of commoning.

Repair to connect commoners through learning and democracy

An important aspect of commoning is the forming of relations between the commoners, as an evolving, diverse, and porous grouping that engages together in processes of learning and democracy (Stavrídes, 2015: 14). Making crafted repair often requires collaboration between people with different specialist skill-sets, and processes of collective problem-finding, and problem-solving. In forming these connections, the relationships are mediated by moments of learning, and there is the opportunity to alter subjectivities, and develop shared desires. The campaign allowed for these existing practices of the Mesters, to be formed outwards with artists, musicians and campaigners, and in doing so, more heterogeneous relations were formed, and new understandings developed. In choosing to do work for one another, and for the emerging group of commoners, skills, understandings and ways of being are not only shared, but co-evolving amongst the members of the group, extending capacities.

Repair can work to address ruptures created by arbitrary boundaries and divisions created in processes of commodification of space, such as the boundary of 'ownership', or the use classes of planning policy. In doing so, it can support the mending of political infrastructures which were spatially and temporally severed from those for whom they are needed. By utilising a DIY approach to repair, working with what is available, and modifying and adapting what exists,⁹ to produce spaces of protest and democratic representation, the constituency for an issue are reconnected to the matters of concern, enabling more powerful claims to justice to be made. The production of the photography exhibition, the campaign posters, and the organisation of clean-up days on site stem from DIY undertakings initiated by artists and musicians that are self-organised, creative,

9 In this case, spaces of commerce, such as the shops on the high street, or the market stall, or the façade of a building.

and politicised, working with what is at hand to support the development of cultural activity within the city. Such activity draws on social networks through the sharing of equipment, space and expertise, and is often focused on events, or creating visibility and connections to potential constituencies. In carrying out DIY, participants define their own educational needs, in relation to their aims and activities (Holtzman, Hughes and Van Meter, 2007; De Roeck et al, 2012; Hemphill and Leskowitz, 2013). DIY work can build new subjectivities, and the skills and capacities to fulfil those new motivations. Spatially DIY practices of maintenance often work responsively to expand the possibilities of what might happen, and create space for the coming together of heterogeneous groups in more meaningful ways.

Repair and the amplification of commons

Many of the existing acts that could be understood as building the commons were often quiet, modest and perhaps taken-for-granted. Repairs such as those to the post-box, steps, or the teaching of specialist skills required access to particular machinery, tools and materials and involved close relations. It involved a more nuanced understanding of what was needed, and the context in which one operates. Such crafted repair acts were about meticulous, skilled work, embodying an ethics of doing things well for their own sake, and to demonstrate shared desires. We can understand these instances beyond the instrumental sense of carrying out a particular task or responding to an immediate need, but as *constituent* of the new world under construction. To notice, make visible and value such work as useful for informing future actions was an important design strategy because it acknowledges what is required to produce space in this way.

In 'Beyond breakdown, exploring regimes of maintenance', Jerome Denis and David Pontille distinguish between invisible and visible regimes of maintenance and repair in the context of market goods. In the former, both the repair and the repairers are invisible; the aim of such work is to stabilise or return a product to a pre-existing state. In the latter, *everyone is expected to be both responsible for, and skilled in, repair*. In these regimes 'mutations and transformations are commonplace' and an object's 'capacity to remain "the same" are much looser and broader' (Denis and Pontille, 2017: 15). Through the production of architectural plans that opened up the possibility to negotiate priorities, not only created agency and responsibility across a wider group of people, but allowed for a more creative and future-orientated process where repair and maintenance were blurred with design.

Repair and 'common failures'

DIY repairs require ingenuity and resourcefulness (Bardzell, Bardzell and Toombs, 2014), and could be a way to understand creativity beyond discourses of 'innovation' (Russell and Vinsel, 2016). The valorisation of innovation as a good in its own right, by which one can produce 'something from nothing' fails to acknowledge the question of labour, and undervalues maintenance as a hidden, gendered and class-orientated work essential to keeping things going. Feminist discourses on social reproduction emphasise this activity upon which social life is predicated, yet unaccounted for (Federici, 2014). The planning application purported to be able to produce an increase in land value through re-designation of use class, and 'regenerating' and 'near derelict' area (Sheffield City Council, 2009). However, through the deployment of the photo exhibition and posters, it became clear that real value for the city could not be derived from shifting a planning designation, but rather was derived through the labours of the Mesters'.

The asset lock allowed for the value accrued through social production to be retained in common, as part of a shared enterprise. The share issue and organisational structure developed for the community benefit society sought to expand this potential, through inviting many people to take part in processes of repair, maintenance and renovation in ways that operated outside of the market and could be directed towards emerging and shared desires. Looking after the building was not just about managing financial risk and seeking to extract maximum profit, but supporting other kinds of value and values. Setting up a community benefit company required the development of a framework that would allow a diverse range of contributions from commoners (tenants and non-tenants) in ways that fed into emerging shared aims, and day-to-day caring for the site. This was an extension of the kinds of relations that already existed, (such as collaborative making, in-kind work, and mutual support) beyond the existing community and walls of Portland Works, bringing in new skills and capacities. Whilst still under very real threat, Portland Works had unusual depth and strength in terms of tenants, and the concern and effort it elicited from outside. With this came the responsibility to other sites and people within the city, and the opportunity to support the reclamation of missing commons elsewhere. Our actions in this respect included teaching students, talks and tours for others initiating similar projects, the publication and free distribution of documentation of our process, and work to connect with other smaller local partners.

Mending the commons with the Little Mesters

The Little Mesters and their metalwork businesses survive by being able to repair tools, workshops and the goods that they produce. The artists and musicians engage in DIY work to facilitate events, and repair and alter the spaces in which they are tenants to allow for non-commercial activities. It is important not to romanticise this work and to stress from the outset that these labours require considerable time and effort from those who already work long days, in demanding circumstances, and often in poor working conditions for limited financial remuneration. Yet, I argue that these practices of repair can be understood as not only having the pragmatic material benefits of maintaining, restoring or extending the use of a product, space or machine/tool, but also, crucially, as a set of spatially expressed flows of materials and relations that are potentially transformative. We can understand repair beyond being a purely temporal facility, and argue it is productive of particular *spaces of repair*, where objects, materials, practices and repairers are assembled. Yet we can take this further; to engage in the different types of repair outlined here, is to develop certain infrastructures, motivations, forms of organisation and spatial capacities. The production of the particular human-idea-matter-tool assemblages required to carry out the Mesters' activities and the DIY work can be understood as entrepreneurial, developing sophisticated and nuanced capacities for self-organisation in the city.

Repair for the Mesters, artists and musicians is part of a diverse economic landscape, which incorporates formal and informal negotiations about value and values. It can be characterised by being resourceful and frugal, yet social, with in-kind payments, gifts, mutuality at the centre of getting by day-to-day in a precarious situation. This work is not abstracted; it is mediated through and productive of personal and material relationships and spaces. Those who labour are those who make the decisions, and because of this the Mesters, artists and musicians are already skilled in negotiations and practical know-how that allow for the reconstituting individual needs and desires as collective ones, which is essential to commoning.

Through politicisation and distributed design, potentials were harnessed and brought together to support commoning. The notion of 'designing the commons' may seem contradictory as commoning is by its nature an emergent practice. However, if we acknowledge that the ability to do something always comes from the labours of others that went before, and that to take on a common project requires interrelations between humans, and non-humans, design can be conceptualised as never foundational, and always distributed. Design, working from and conceived as repair, was deployed to valorise and enable multiple

contributions of different temporalities, forms, and authorships, and in doing so supported a more plural, democratic and equitable process. Whilst reclaiming the space of Portland Works and rejecting its commodification is an essential political and economic act upon which a common can be predicated, to engage in repair, (understood in an ecological sense), is to acknowledge the ongoing processes of maintenance and reproduction that allow for the careful continuation of the commons.

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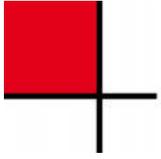
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Food repair: An analysis of the tensions between preventing waste and assuring safety

Sebastian Abrahamsson

abstract

Research into food waste has shown that around one third of the food that is produced for human consumption ends up going to waste. The reasons for this are many but in reports and campaigns the role of the consumer, their careless behavior and anxieties related to food are often raised as two of the main causes for food going to waste. By way of contrast, this article asks what practices of saving, experimenting with, growing and eating food – what is here conceptualized as ‘food repair’ – may tell us in terms of the specific materialities of foods, and the work involved in repairing it. Drawing on ethnographic fieldwork with dumpster divers, a studio for the experimental arts, and urban gardeners, I suggest firstly that the actual work of food repair is mundane, small-scale and often remains largely invisible. Secondly, food repair is caught in the tension between avoiding waste and assuring safety. This tension, and the work of living with it in practice, is analyzed in terms of caring: caring for the food, for sustainable consumption, for the eater. As such, this text articulates the concept of food repair as a conceptual contrast to the notion of careless consumers and throw-away societies in order to map alternative stories and practices. Rather than offering a critique of known food wasting practices, then, this text is intended both to articulate and strengthen marginal food repair practices.

Introduction

Every day, food consumers in affluent societies throw away a great deal of food. The precise quantities are difficult to calculate. In Europe, estimates range from 95 and 115 kilos per person per year (Gustavsson et al., 2011). One of the reasons for all this waste, some suggest (Kneafsey, 2008), is that consumers are geographically and socially disconnected from production. Examples that

interrogate the relations between food production and food consumption suggest that consumers do not know (or care) about who grew their potatoes, and how they were grown (Bingham, 2006); how their bananas and papaya reached their supermarkets (Cook, 2004); and they remain unaware of the efforts and work that went into connecting cattle farms in Belgium and their esophagus (Stassart and Whatmore, 2003). In this sense, the foodstuffs that people buy have been analyzed as no different from clothes, furniture, toys, electronics or other consumer goods: foods, these analyses suggest, are disposed of when they are no longer useful, needed or wanted (Cooper, 2005). The sheer existence of food waste, then, has been written into a narrative that suggests consumer cultures create 'throwaway societies' (Evans, 2012; Gregson et al., 2007). Such an analysis, I suggest, misses what is specific about food. Food is vital in the sense that it is necessary to the sustenance of life, but if handled the wrong way it may also end or severely impact life. Thus, another reason, some suggest (Jackson, 2010), why food gets thrown away is that consumers do not know how to handle food in ways that are safe (Hinchliffe et al., 2013). Foods are incorporated, digested, metabolized and in being eaten they quite literally become (part of) 'you' (Mol, 2008).

However, that there is a disconnection between consumers and producers, and that food is potentially dangerous to eat does not exhaust the potential reasons why food gets thrown away: the amount of food being produced in some parts of the world exceeds both demand and caloric need (Stuart, 2009); the ways in which marketing and advertising seduce consumers to buy more than they may want or need matter, too (Cochoy, 2008); failing technologies and the lack of infrastructures to store and keep foods safe and fresh also add to foods getting wasted (Freidberg, 2009). Dubious or unwanted foods may also get wasted because discarding and recycling it, is presented by waste management companies as contributing to a more sustainable way of living (Corvellec, 2014). Finding out why and how consumers get rid of food is thus an important task in articulating possible solutions to the problems with food waste. Contrary to research that emphasizes food's riskiness, or research that supports the 'throwaway society' thesis, sociologist David Evans suggest that food gets wasted because of the clashing concerns, interests and demands that make up everyday life (2014). To eat 'fresh' and organic fruits, for example, is good both for your body and for the environment, but canned and non-organic fruits are less likely to go bad and perish.

While the reasons, behaviors and structural conditions that enable the generation of food waste are all relevant to food waste studies and policies that aim to reduce the amount of food waste, in this paper I wish to focus specifically on how food is prevented from going to waste. I will do so by articulating the concept of 'food

repair' through an analysis of practices that experiment with the edibility of foods. Finding out how people assess whether food is safe to eat, and how they go about saving food from being discarded tells us about the work of caring for food as well as caring for the eater. It also conveys the various skills and techniques that may be drawn upon in this work. I discuss exemplary situations from ethnographic fieldwork wherein such work is made relevant: people gathering and eating discarded food from dumpsters; collective dinners where foods that have expired their due date are eaten; and people growing and eating food in a communal garden in the city. With these examples I wish to articulate the various, different skills and resources that are put to use when food gets repaired.

Contrary to the work involved in keeping cars running, the recycling and transformation work that turns obsolete electronics into value (Lepawsky and Mather, 2011), or the repair work involved in circulating goods through second-hand cultures (Gregson and Crewe, 2003), food repair often goes unnoticed and remains invisible in both policies and scholarly reflection (Evans et al., 2013). Second, I wish to emphasize both the material variability of different kinds of foods – their perishability, potential riskiness, conditions for production, storage and cooking – as well as the eater who eats it. Food repair is a relational practice that associates an eating body with organic matters, producers and farmers, soils, supermarkets, modes of preservation and packagings, as well as kitchen technologies, food preparation, cooks, and other eaters. Third, and highlighting situations where food is saved from going to waste, I also wish to attend to the kinds of caring that goes into food repair. Care and caring has been mobilized in science and technology studies (STS) and waste research in terms of acts of repair, maintenance, as tinkering or mending (Puig de la Bellacasa, 2011; Mol, 2011). Here, caring is not analyzed as the good intentions, attitudes and behavior of individuals but as a process and a practice that involves the enrolment of skills, technologies, and objects in efforts to try things out.

Food repair

Scholarly reflections on repair and maintenance attend to the inevitable deterioration, fragility and perishability of things on the one hand and the various practices – recycling, tinkering, conservation, mending and so on – that intervene with and transform materials on the other hand (Jackson, 2014). The maintenance work that is involved in transporting and displacing edible materials across the globe involves both sophisticated cooling technologies (Freidberg, 2009) and complex networks of transportation (Cook and Crang, 1996). In supermarkets and in households, date labels, packaging, cooling and

cooking all contribute to keeping foods fresh and avoiding deterioration: if decay is foregrounded, the practices that allow for food to be and remain food come into view as practices of maintenance. If the orderings made possible by such maintenance are disrupted – when cooling technologies fail, when supply exceeds demand, when foods get contaminated or when trust between parties is put into question – a possible outcome is food waste.

Such breakdowns and disorderings address the fragility of the infrastructures that work in the service of maintenance (Star, 1999). But temporary collapses of infrastructures also open up the possibility for new modes of engagement. It is in that space of possibility that I would situate food repair. Food repair foregrounds fragility and decay (Denis et al., 2015). As such, food repair comes into view when people intervene in food/waste distinctions, or when solutions for saving and transforming foods are invented. In this sense, food repair is similar to other kinds of repair practices, in the sense that value gets renegotiated (Reno, 2009). Another similarity has to do with the fact that attending to practices of mending, tinkering, repairing and caring – while not as visible and worrying as ever-growing landfills (Reno, 2016), and not as straightforward and shocking as the numbers related to foods being thrown away (Gustavsson et al., 2011) – does offer relevant empirical, and political, contrast to what is elsewhere termed ‘throwaway society’ (Cooper, 2010). The analytical task that I have set myself here, then, is not to critique the middle, but to strengthen the margins. Thus, food repair work, while virtually invisible in policy, is politically interesting because it attends to the creativity and organizational skills of consumers. The difference between foods and other materials that I wish to highlight, however, has to do with the specificity of foods, namely the fact that foods, while they are meant to be incorporated, may be potentially dangerous to eat.

In the following, I will attend to this specificity, drawing on three empirical examples from fieldwork conducted in Sweden, Denmark and The Netherlands between 2014 and 2016. The examples evoke situations in which concerns about food repair, food waste and food safety are made relevant: the symbolic and material boundaries between food and waste; the importance of trust in others; and the sociomaterial attachments between eaters, foods and soils. As such, the examples are meant to point both to the multiplicity of food repair practices, while attending to the specificity involved in the three situations. These practices do not ‘solve’ the ‘bigger’ problems with food waste; instead, they open up windows of possibility through which the concerns with food repair may be analysed.

Resisting boundaries: Dumpster diving

I am standing next to a dumpster located behind a local supermarket in a city in Denmark. The dumpster is used to get rid of virtually anything that the supermarket wants to dispose of. Inside, there is a lot of food: cucumbers, boxes with small tomatoes, oranges, bananas, lettuce, and mushrooms, some scattered potatoes, sweet peppers, two packages with cheese. I am here together with an informant, Anders¹, to learn more about dumpster diving. Anders lives nearby and most days he drops by at this dumpster to see if there is something he fancies eating there and then, or something he might want to bring home to save for later. Just as we arrive, an employee opens up the backdoor to the supermarket and throws some more tomatoes into the dumpster. She waves to us and asks us to hurry up because the supermarket is about to close. 'They are really friendly here' Anders tells me, 'we have a sort of tacit agreement with the employees at this place. As long as we don't make a mess, they let us take the food we want.' He goes on, 'many of the people working here don't like having to throw away all this food so they appreciate that we take care of it for them. I guess it makes them feel better about throwing it away'. This supermarket, however, is an exception, as increasingly supermarkets take measures to prevent these practices.

During the last couple of years, dumpster diving has gained a lot of interest in the local news, on blogs, and among different communities within the city. Diving for food, while still a marginal activity carried out mainly by younger people, is sometimes theorised as an act of resistance against consumerism, present day food production, and globalised networks of excess capitalism. In this context, Barnard, who studied the 'Freegan' movement in New York, learned that 'Some practitioners see it as a revolutionary anti-capitalist ideology, while for others it is a common-sense way to reduce waste and minimize one's ecological footprint.' (Barnard, 2011: 421) Anders tells me that he and his friends do not dumpster dive for any one particular reason: they think it is a shame that good food is thrown away, and if they can get it for free, they are not going to complain. On the other hand, Anders is consistent in his language: the stuff that he recuperates from dumpsters is not waste, it is food. He picks up a banana from the top layer of the dumpster, squeezes it gently to check that the texture is good before peeling it and grabbing a bite. 'Look, it's actually very simple' he says, 'if this was waste I would not eat it. I eat food. That the banana has spent some time in a dumpster does not make it any different from the bananas you can find in the fruit section inside the supermarket. The only difference is this banana is free'. Semiotically, this is to subvert and resist the symbolic boundary,

1 All names are pseudonyms.

following Mary Douglas (2010), between waste (as impure, polluted, dangerous) and food. Anders' refusal to name his banana 'waste' is part of a semiotic warfare against the dominant modes in which separating food from waste are carried out. He is well aware of the implications of this. He continues, 'There is a battle going on right now between those of us who no longer want a system that produces all this excess and those who could not mind less'. At the level of action, however, this is not a matter of subverting a symbolic order: by eating the banana, it is enacted as food (Law and Urry, 2004). Practically, then, dumpster diving entails sorting the edible from the inedible (Black, 2009). Not by creating a symbolic or spatial boundary between food and waste but by engaging bodily – squeezing, sniffing, looking, tasting, eating – with food. Some of the bananas are clearly beyond saving. They are discolored, have been smashed or have damaged skin. These are left untouched in favor of better ones.

Here food repair, as it is practiced through dumpster diving, is repairing the 'system' that Anders mentions – a 'system' that produces the excess that dumpster diving feeds off – by refusing to let edible food go to waste. Such excess may be analyzed as given in any system of production (Bataille, 1992) or as the inevitable outcome of global capitalist production (Moore, 2014). In the latter sense, food repair may in turn be analyzed as an 'anti-consumerist practice' or a 'revolutionary anti-capitalist ideology' (Barnard, 2011: 420-21) that taps in to 'alternative' food networks (Kneafsey, 2008). At the same time, dumpster diving thrives on and exists because of the very same consumerism and excess that some divers wish to distance themselves from. Next to this, however, I want to suggest that dumpster diving also highlights the ways in which food repair amounts to a bodily engagement with organic and perishable materiality. Divers are engaged in sniffing, squeezing, touching, tasting, chewing and ingesting foods. As such, diving for food also makes explicit the ways in which food repair anticipates an eating body that ingests and digests – a body that relates materially, by incorporating and excorporating (Mol, 2008).

As I was to learn during later occasions when I joined Anders and his friends, dumpster diving is a matter of learning simple tricks to tell that which is or may still become good from that which is bad, if not potentially dangerous, to eat. A sealed box containing herbs, cheese or vegetables with a cover of thin plastic that is bulging implies that the contents have been subjected to some chemical reaction that neither the divers nor I know the name of. Anders avoids those, together with fresh mushrooms. 'I have never had my stomach go bad from eating any food that I have found in a dumpster, but I know of others who have had bad experiences from eating mushrooms from a dumpster. So if I find mushrooms I leave them.' Filling four plastic bags with cheese, tomatoes, leeks, fruit, and candy, we head home to Anders'. At home we can rinse all the

vegetables – this is very important. Aware of the suspicion that some supermarkets put both rat poison and washing powder inside their dumpsters, rinsing becomes the final instance in making sure that the food is safe to eat. ‘I don’t know of anyone who has fallen seriously ill – personally, I can live with an upset stomach – from eating food from a dumpster. But with rat poison and washing powder – who knows what might happen? The rat poison has made me more alert, more suspicious.’ While rinsing, Anders also takes a closer look at the food that we brought home. In one of the boxes with tomatoes, some tomatoes are indeed rotten – rinsing will not help to make them tasty, safe or appealing.

In those cases where supermarkets do collaborate, preventing waste is shared between the local staff at the supermarket and the dumpster divers. A reciprocal relation is established: the staff feel less guilty about throwing away edible food and the dumpster divers get a free meal. Several techniques to tell the edible from the inedible are evoked. Visual appearance is used to sort the good (visually appealing, rare, expensive, canned) food from the bad (rotten, bad texture, potentially dangerous). With packaged food and fresh vegetables a gentle squeeze will tell about the freshness of the food. Sometimes this is not enough and smell is brought in before any food is eaten. Food is rinsed off to remove remaining residue and make it more visually appealing. Such techniques are not limited to dumpster diving, but are commonplace to those who handle food in their everyday lives (Koch, 2013). Through dumpster diving, however, these techniques are actively and collectively experimented with. The potential risks of eating discarded foods make these techniques all the more relevant, open for discussion, fine-tuning and experimentation. Hence, dumpster divers exemplify the ways in which bodily engagements may become drawn into the practical task of repairing and caring for food: telling edible food from non-edible or sorting fresh from perished food stuff. As Anders’ story shows, this can fail. Bad mushrooms, washing powder and rat poison are only some of the potential dangers that may be encountered in a dumpster. ‘Warm days, such as today, are far from optimal’ Anders adds, ‘since high temperatures speed up the decaying process and ruin most foods. I prefer to dive in the winter when the cold turns any dumpster into a veritable freezer. During really cold days you can get anything from a dumpster without risking your health. Even a good, juicy stake if you are lucky.’ Dumpster diving, then, relies on supermarket staff not interfering or pouring rat poison in their dumpster, it thrives in affluent societies amidst consumerism and excess, and, it works best in cold climates.

Cultivating trust: Collective eating experiments

In 2011 a studio for the experimental arts organized a series of dinners, where participants were invited to bring food that was beyond its expiry date. With a growing attention given to the negative environmental effects of food waste in Dutch media, and an increasing emphasis on freshness and food safety by retailers, the studio sought to stage a collective and public eating experiment. The short description of the event, posted at the studio's homepage, invited and encouraged people to resist the temporal logic of freshness by preparing, cooking and eating expired food.

Freshness is all the rage these days and our blind trust in expiration dates is taking on religious forms. Bullshit! It's time for some seriously fine, but expired food this summer at Mediamatic. On Tuesdays we'll be serving the most delicious expired delicacies that your fridge or local grocers has to offer. Power food, because what doesn't kill you makes you stronger.²

Just as in the example of dumpster diving there is a clear language of resistance against prevailing and dominant modes of sorting food from waste. But whereas dumpster divers reject the spatial placement of food (inside or outside a dumpster), and the symbolic boundary between polluted and clean, as what is relevant for the distinction between food and waste, the dinners organized by the studio targeted the temporal logic of date labels, and the potential threats and anxieties associated with transgressing these (Milne, 2012).

Each dinner was hosted by a chef who had been invited for that specific occasion. I was invited to the first of these dinners, to which I had also invited a colleague, close to 70 people came along. Participants were mostly concerned citizens in their 20's and early 30's. The organizers were pleased with the unexpectedly high turn-out, and as such there was also plenty of food: vegetables and fruit, canned beans, plastic containers with different kinds of sauces and pre-made curries, pasta and bread. My friend had brought an opened bottle of red wine, sprouted potatoes, canned corn, and a bag of peanuts – items that neither of us would have eaten on our own. The organizers brought chicken and shrimps that had not been sold at one of the open-street markets in the city. A special table was arranged where participants could drop their food off. My friend placed her food there too, thinking that a lot of it would get sorted as inedible. Each participant was assigned a task: rinsing and cutting tomatoes, zucchinis and onion for a soup, cutting and toasting bread into small squares, peeling and frying shrimps for paella. But the final task of turning all the food into a three course dinner was left to the chef and a small group of volunteers.

2 <https://www.mediamatic.net/en/page/2741/why-an-over-datum-eetclub>.

As participants at the dinner we were seated at the table where vegetables were rinsed, peeled, sorted and cut. Together with eight other participants, we were made collectively responsible for ensuring that the tomatoes, sweet pepper and carrots were good to eat. Practically this involved a lot of talking and collaboration ('Can we still use this?' 'This looks ok to me, what do you think?') as well as cutting away damaged parts and saving the rest. Crucially here, the engagement with food was a collective enterprise. Tomatoes and zucchinis were squeezed and assessed at the cutting tables; shrimps and pieces of chicken were smelled and observed by many noses and eyes. The final cooking took place in front of the participants and we could all witness – see, smell – how the food we had brought and prepared was turned into a shared dinner that we would later eat.

The experiment relied on the condition that all ingredients would be over their expiry date. This was food that, in the logic of date labeling, was either unsafe to eat due to its microbial composition (use by date), or may have had changes to its texture, smell and color (best before date). Surveys around food labels suggest that consumers are confused about the implications and intended purpose of these two kinds of labels (Van Boxtael et al., 2014). And reports on food waste suggest that a lot of food is thrown away irrespective of whether it is the use by or the best before date that has been passed (Williams et al., 2012). At the dinner, this logic was contested which also meant that responsibilities shifted from retailers and producers to a temporary collective of eaters. This condition makes the issue of trust all the more significant. Usually consumer trust is described as a social structure – a characteristic of consumer practices that stems from institutional arrangements between producers and consumers (Zagata and Lostak, 2012). But what exactly does this entail here, where these arrangements are partially disqualified and made absent? Trust, in the context of the dinner, was a matter of challenging the logic of temporal markers (i.e. date labelling) meaning that the institutionalized protection of the consumer was potentially put at stake. At the same time, trust became a matter of establishing a space where a different kind of engagement with food could be shared. At the cutting tables participants engaged in discussions about quality, freshness and textures. Valuing the food became a shared and experimental activity through which qualifications such as 'good enough', 'tasty' and 'not tasty' or 'inedible' was negotiated.

Food repair here worked on two levels. Firstly, as with dumpster diving, the collective dinners were staged events, which partially challenged the organizational logic of food consumption through which supermarkets are normally made to mediate risks and enable trust between consumers and producers (Koch, 2012). As such, the dinners may be analyzed as attempts to create alternatives to the disconnection – created for example by packaging,

labelling, and industrial food production – between consumers and the foods they eat (Evans and Miele, 2012). Second, however, the dinners also actualized a different modality of food repair work, one that relied on qualifying and valuing the materials in practice (Heuts and Mol, 2013): sorting waste from food, cutting rotten from fresh, cooking and eating. In this sense, food repair involved the sociomaterial cultivation and organization of trust between participants by means of cutting through tomatoes, rinsing zucchinis and toasting stale bread. It is a kind of repair that does not necessarily restore foods to their previous shape and form – where repair would be equivalent to re-establishing and maintaining a given order or authenticity (Jones and Yarrow, 2013) – instead, it is a kind of repair that evaluates and values that which can be saved, and in turn, eaten.

Growing attachments: Community gardening

Between 2011 and 2014 a community urban garden project ran in a city in the south of Sweden, where people living in the local community used to grow their own vegetables and herbs for private consumption, as well as for the fun of it. The project ended abruptly in 2014 when, following complaints from neighbors, the garden was shut down. The garden was part of a larger municipal initiative – ‘Green City’ – to promote and organize projects centered on sustainable and organic living in the city. A network of people with an interest in permaculture and sustainable modes of living, who called themselves *Mykorrhiza*, applied for funding to rent land from the municipality and permission to establish a garden where food could be grown was granted. Etymologically a Greek word (a compound of the word *mykos* [fungus] and *riza* [root]) *mykorrhiza* is a term used to denote the symbiotic attachments between the roots of a plant and fungi. The model of symbiosis between the two kinds of plant become, in the ethos of the *Mykorrhiza* collective, translated into a relation characterized by reciprocity between city dwellers and their environments. The park where the garden was planned connects the inner city and residential areas on the outskirts to the suburban area Rosengård. Situated in between these two areas, the park and its connecting cycle and walking paths has been subject to lots of urban planning interventions. Most notably, a popular playground, and ‘safety lighting’ were installed to make the area more attractive. In this context, the collective suggests that

We [the *Mykorrhiza* network] wish to mimic the *mykorrhiza* in the soil. We want to make possible that more plants can grow. We operate, just as the *mykorrhiza* in the soil, at a grassroots level and want to create networks that reach out to different

parts of society. Just like the mykorrhiza in the soil, we make use of collaborations – between different people and between people and nature.³

This speaks, again, to a mode of organizing food production and consumption that runs against the grain of disconnected production-consumption relations. Such relations usually rely on the fast-paced and intensified modes of exploitative cultivation and human-soil relations that characterizes industrialized food production (Puig de la Bellacasa, 2015). Instead, urban gardening is often more attuned to the carefulness that comes with the slower speeds required to cultivate food that is both good to eat, and good to grow (Miele and Murdoch, 2002). Crucially, in this respect the network also emphasized the distinct role played by a careful engagement with soil in making possible a collaborative mode of food production (Bertoni, 2013).

An important practical task was to find ways in which cities may become sustainable and reduce waste in terms of food production and consumption. With people growing, cooking and eating food together the network wished to cultivate relationships to food that are different from those where production and consumption are mediated by transportation networks, advertisements, supermarkets, monetary exchange, excess production and wasteful consumption (Barthel et al., 2015). These premises set out the ‘ethical program’ for the collective: to organize a platform and network for people to cultivate not only green spaces and edibles but also to grow attachments between people, and between people, soil and green spaces in the city.

In 2011 the project was up and running, the soil had been cultivated and plants had been sown early in spring: there would be a communally run, sustainable and ‘green’ space for locals to meet and exchange experiences, to grow and share food albeit at a small scale. In the summer of that year the collective had organized workshops in local farming and permaculture; national media had reported on their garden in the news; barbeques and harvesting events had attracted interest not only from people living in the area but also from municipality officials. A sign hanging on the fence surrounding the garden summed up the success: ‘Here food and community are grown together’. Towards the end of the summer, however, an official specialized in agronomy at the municipality contacted the collective telling them that the park could no longer be used for growing food. Results from soil samples taken earlier during the year had now come back showing that the values of certain heavy metals (lead, mercury, zinc, cadmium and polycyclic aromatic hydrocarbon) were higher

3 <http://web.archive.org/web/20130518115112/http://www.mykorrhiza.se/natverket-mykorrhiza/>.

than the threshold values determined by *Naturvårdsverket* (the Swedish Environmental Protection Agency). So while the soil would indeed allow for all sorts of plants and vegetables to grow, those plants were not suitable for human consumption. Many had already eaten the food, for which there was nothing that could be done. While no one could stop people from continuing to eat the food that had been grown in the garden, no one in the collective felt that it was worth the risk. The remaining crops were taken away and disposed of. In contrast to the previous two examples, the gardeners could not rely on their senses or cut away and sort good food from bad food. And in contrast to the previous examples, food repair here involved *addressing the conditions of possibility for producing food*.

A solution to the problem was offered to the Mykhorhiza network. The municipality wanted to remove the contaminated soil and replace it with soil that was uncontaminated. But for the collective this would simply imply moving the problem elsewhere. Instead, and in line with their ethos, Mykhorhiza wanted to experiment with a different solution to the problem. Rather than growing foods in the contaminated soil, wooden containers with new soil were put to use. Meanwhile vegetables with differently deep roots were being grown as samples for a new test to see whether and how much of the metals are actually absorbed by the plants that were grown in the contaminated soil. Salad, which has relatively short roots, was compared with root vegetables. Instead of removing the contaminated soil, plants that absorb the metals would be planted, such as *Salix* (willow). The method, called phytoremediation, is a complex technique in soil science that is used to eradicate heavy metals, chemicals and pollutants. In the community garden willow was used to extract the cadmium and the zinc. As one of the gardeners explained to me ‘the plant ‘eats’, or extracts, absorbs and metabolizes the metals’.

The garden answered to a call for reconnecting consumption and production practices (Goodman, 2002). In this specific sense, the food repair that the gardeners were practicing was one aimed at regrowing attachments between consumers and producers, while cultivating an appreciation of food. When faced with issues of food safety, small scale sites of production and consumption such as community gardens do not call for immediate action, but allow for space and time to experiment, learn and adapt. The people who had eaten the crops that were grown in the contaminated soil did not fall ill. But rather than abandoning the project and the garden, or having the soil replaced, the collective wanted to stay. ‘The soil – whether contaminated or uncontaminated – is not a “thing” to be used or removed, it is part of what we are and who we are’ one of gardeners explained. Crucially, for food to come into being, the relations between eating humans and soil need to be cared for. Learning from the *Mykorrhiza* in the soil, the collective knew that to grow the associations between roots and fungi in the

soil, associations that are relationally entwined with the food they wanted to grow, takes time and a lot of hard work. Once those associations have started to take shape, they become strong and durable. The community garden was successful in growing those attachments and relations to the soil alongside repairing the preconditions for safe and clean food production in the city. However, the termination of the network's contract with the municipality in 2014, due to complaints from neighbors about noise and littering, points to the multifaceted and complex attachments needed to establish long-term and sustainable repair work.

Conclusions

Food repair interferes, in various ways, with how food consumption and food production are organized. It may involve cutting away pieces of a tomato that have gone bad, rescuing and rinsing vegetables, or learning how to decontaminate the soil in which foods are to be grown. Crucially, food repair reconfigures and re-organizes the ways in which foods and eaters interact and come together. When mediators – be it the state, supermarkets, or food producers – get sidelined, and consumers and eaters are left to their own devices to care for, tinker with and mend foods, the techniques and skills required for repairing food become visible for the eater, communities, media and publics, and to the ethnographer. Not only do they become visible, though, they also become the object of negotiation, and experimentation. One possible lesson that could be drawn from this, is that such mediators *should* step back to allow consumers to relearn how to value foods. But that would be missing the point, where the point here is rather that food repair opens up *different*, not *better*, registers of valuing.

The three examples speak to the mundane yet idiosyncratic specificity of food repair, i.e. the tension between avoiding the wasting of foods on the one hand and assuring safety on the other hand. Those engaged in food repair do not simply 'use', recycle or re-use the object that they repair. They ingest it, their bodies incorporate (some of) it, metabolize and excrete (some of) it. A food repairer is not only a consumer, but also an eater. In the face of potentially dangerous foods, instead of throwing it away, food repairers may also draw upon different techniques for assuring safety while at the same time avoiding wasting. Put differently: the situations described here evoke techniques that repairers draw upon to avoid food waste while caring for individual and collective health and safety. In this context, repair actualizes the ways in which this work is actually done depends not only on good intentions, thrifty behavior and consumer choice (cf. Shove, 2010), but also on the various material, social and

technological circumstances that are present in a situation. In all examples, there are potential safety issues and concerns.

First, there are the concerns related to pollution and transgression that are actualized in the practice of dumpster diving. Here, taking food out of a dumpster, where it has been placed because it is deemed waste, conjures the well-rehearsed symbolic division dirt and order as described in detail by Mary Douglas. Food that has been discarded and displaced becomes, in Douglas' reading 'matter out of place' (2010), whereas that same food, if it is found on a plate or in a fridge, does not pose a threat. The fear here is not so much that the food is inedible because it is over its expiry date, but rather that it has become polluted by having touched or been close to unknown, possibly dangerous, materials. But contrary to these distinctions and classifications, dumpster diving also conjures the bodily qualifications of the skilled and trained senses of the dumpster diver. The way in which the divers tell the edible from the inedible is by becoming experts in qualifying the texture, color and smell of foodstuff.

Second, there are concerns related to trust in others that are actualized in the experimental dinner in Amsterdam. This is by no means restricted to experimental and collective dinners. Brand names, information on food packages (Cochoy, 2016) and date labels (Milne, 2012) are some of the devices used to establish trust between food producers and food consumers. For these experimental dinners, most of these devices – especially the latter – were missing from the equation. Since the task of assuring safety was organized as a collective enterprise, participants had to ask themselves how to renegotiate trust in expired foods. How can eaters be sure that the food that others brought is safe to eat? Can the organizers and the chef be trusted to know what they are doing? What happens if someone falls ill from eating the food? Who (if anyone) is responsible? Such an event requires that participants can tell good from bad and requires all participants to work together to achieve a temporary community of trust: trust in each other, and trust in the food they share and eat.

Third, in the community garden, growing food locally and 'with love' was offered as a response to sustainable and less wasteful ways of living in an urban environment. Indeed, the garden seemed to connect in a very direct way with the potential problem of consumers being disconnected from the production of their food. But the example from the garden also tell about the potential pitfalls of consumers taking things into their own hands. In the community garden, color, smell and texture are of little importance to assure safety. And the fact that all gardeners have a good time together and trust one another is of course good for growing attachments between people, but it matters little with respect to the quality of the soil. The food that was grown in the garden looked and smelled just

fine, and tasted good too. Eating it the gardeners were unaware of any of the potential dangers they were exposing their bodies to. The pollution of the food that was grown in the garden, and the potential threat that it posed to eaters, was only actualized once the soil samples had returned from the lab.

Contrary to official food waste recommendations and reports, the ways in which citizens and consumers interact with food does not necessarily give priority to either avoiding waste or assuring safety. I have suggested that to understand how consumers and eaters tackle this tension we may shift our mode of analysis away from reports and policy documents that map the extent of food waste and instead empirically analyze situations and practices in which food safety and food waste become tangible matters that have to be dealt with, which I have termed here food repair. The articulation of food repair offers a valuable empirical and conceptual contrast to food waste studies. Firstly, because practices of food repair highlight the often neglected work of maintenance: food is a fragile and temporary achievement that is made possible thanks to the infrastructures of maintenance – transportation, cooling, packaging, conservation and so on – that fend off decay. Secondly, analyzing practices of food repair brings to light the inventiveness, skills, techniques and creativity with which consumers engage with foods to avoid wasting. Such skills and techniques are made explicit in practices of food repair. Put differently, food repair offers a window through which those skills may be analyzed. And thirdly, where research on food safety and health have tended to highlight the social and/or psychological characteristics and anxieties to do with food, the examples that I have drawn upon here make present the material and perishable limits of food. In this sense, the practice of food repair not only articulates the care for food waste and sustainable modes of engaging with food. The perishable and potentially dangerous materiality of foods that food repairers encounter also highlights the many limits of such repair work.

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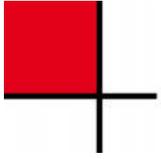
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The organization is a repair shop

Lisa Conrad

abstract

This paper looks at organization from the perspective of ‘broken world thinking’ (Jackson, 2014: 221). This means to appreciate the way organizational processes, structures and behaviours are subject to fragility, disintegration and breakdown and how, in response, they are incessantly held up, restored and fixed. I take repair as an analytical lens to look at the case of Company N., a mid-sized metal-working business. Going through the process of implementing a new Enterprise Resource Planning (ERP) system, it finds itself in an exceptional situation entailing a lot of repair work. However, it turns out that repair is never completed. Rather, both before and after the system switch, Company N. is imbued with the need of constant fixing. Thus, even though the company counts as a manufacturing business, it is basically a repair shop. Concentrating on the company’s practices of repair – in all its variations – points to the way organization is locally and precariously accomplished. It also shows how struggles over power and resources are situated within the never-ending business of repair.

Introduction: The perspective of repair

The stability of organization, its inertia and the inexorable iron cage it constitutes have occupied many scholars in organization studies and elsewhere (e.g. Weber, 1930; Hannan/Freeman, 1977; DiMaggio and Powell, 1983; Barker, 1993; Dale, 2005). The recurrent discussions about the difficulty of *changing* organizational structures and behaviours are related to this assumption of stability (e.g. Kaufman, 1995; Douglas and Wykowski, 1999; McNulty and Ferlie, 2004; McMillan, 2013). However, over the past decades quite an opposite way of thinking about organization has emerged. It considers organization not as a stable entity, but as the temporary product of practices of organizing. This stream of research is marked by integrating process philosophy, pragmatism, linguistics,

ethnomethodology and practice theory into the study of organization (e.g. Weick, 1995; Feldman, 2000; Cooren, 2001; Tsoukas and Chia, 2002; Czarniawska and Hernes, 2005; Hernes, 2008; Ribes et al., 2013; Langley and Tsoukas, 2017). In a short text on 'Organizing as a mode of existence', Bruno Latour condensed many of these arguments acknowledging 'the mass of work' that has been done in organization studies in order to complicate and re-describe notions of organization (Latour, 2013: 47). One of the crucial points is that 'there is no inertia at all in an organization. But if you stop carrying it along: it drops dead.' (Latour, 2013: 41) Carrying out an organization means translating it, hence taking it from one moment to the next. Thus, attention should be focused on the 'tiny transcendence' (Latour, 2013: 50) which also leads to 'the precise *tools* that allow the organization to shift from one sequence ... to the next' (Latour, 2013: 47, emphasis in original).

Adding to this stream of research, I would like to suggest 'broken world thinking' as Steven J. Jackson has proposed with regard to a technologically saturated world (Jackson, 2014: 221). Instead of stability and rigidity, broken world thinking assumes 'an always-almost-falling-apart world' (*ibid.*: 222). It implies that technologies and their material as well as social infrastructures or 'complex sociotechnical systems' (*ibid.*: 223) are fragile goods, always about to disintegrate. What keeps them from dissolving is the incessant work of maintenance and repair. Broken world thinking is about asking 'what happens when we take erosion, breakdown, and decay, [...], as our starting points' (*ibid.*: 221). Directing attention towards the many spots where dissolution and breakdown set in, it develops 'a deep wonder and appreciation for the ongoing activities by which stability (such as it is) is maintained' (*ibid.*: 222).¹ Applying this view to the study of organization means considering organized-ness not only as a local and constant accomplishment, but also as a precarious one. Organization does not exist in a self-evident and stable way, but it demands to be enacted. Enactment means assembling human and material resources and it is this delicate assemblage that seems to be crucially related to the work of repair.

In this text, I adopt the perspective of breakdown and repair and use it as a filter to look at organized action.² The specimen of organized action that I will work

1 Alongside Jackson, articles on repair in cultural studies, media studies and STS that guide my exploration are de Laet and Mol (2000), Larkin (2004), Graham and Thrift (2007), Irani (2015), Russell and Vinsel (2016), Graziano and Trogal (2017), Houston (2017), as well as the conferences *The maintainers* in 2016 and 2017 [<http://themaintainers.org>].

2 This begs the question of whether such a focus on breakdown and repair relates to an actual increase in fragility and drift of organizations and institutions. According to Jackson, 'the twenty-first century world' can indeed be considered as being marked

with is Company N., a mid-sized metalworking business located in the south of Germany.³ I will report on and marvel⁴ at the activities of repair that I found there. Hence, in this text, repair is not used as a metaphor, but it refers to concrete practices of coming to terms with the fact that ‘unexpected things can happen and things go wrong’ (Wynne, 1988: 162). The practices of repair that I encountered at Company N. can be separated into two groups. On the one hand, there is exceptional and transitional repair, on the other there is daily and never finished repair. Or, put differently, what drew me to Company N. in the first place was an exceptional period likely to come with a lot of repair work. Concretely, this is the implementation of a new encompassing enterprise software (ERP system).⁵ However, this exceptional period then turned into the background, with the realization that repair never seems to be completed. Rather, great parts of Company N. are marked by a continual need to repair. Hence my claim: Company N. would commonly be categorised as a manufacturing business, but it is actually also a repair shop.

The text consists of four parts. Following this brief introduction to the perspective of repair and the set-up of the study, I will introduce Company N., the case the text at hand is dealing with. This part provides some context for the scenes of repair that are the main focus of the following section. Corresponding to the basic insight stated above, it is divided into an account of exceptional repair and an account of constant repair. The text closes with a discussion further

by ‘risk and uncertainty, growth and decay, and fragmentation, dissolution, and breakdown’ (Jackson, 2014: 221; also Giddens, 1990; Beck, 1992). Maybe these are genuinely novel hallmarks of organization in the new millennium. However, within process organization studies they would be considered as having always been present in organization, however covered and maybe also stabilised by powerful imaginaries of firmness, immutability and determination.

- 3 Fieldwork was carried out between 2012 and 2015. It consisted of 30 days in total of following processes at Company N., conducting interviews, attending meetings, taking photographs, spending time there.
- 4 I borrow this position from Marianne de Laet and Annemarie Mol’s investigation of the Zimbabwe Bush Pump, in which they foster an appreciation and admiration of both the people and structures studied. ‘For we happen to like, no, even better, to *love* the Zimbabwe Bush Pump in all of its many variants.’ (de Laet and Mol, 2000: 225) They advocate the role of the researcher to perceive and describe the accomplishments and successes of their object of research, allowing yourself ‘to be *moved by it*’ (ibid.: 253).
- 5 ERP stands for Enterprise Resource Planning. These business software packages are usually divided into modules according to the standard functional areas, such as sales, planning, production, quality control, stock, procurement, shipping, accounting, and staff. Each department is working within their respective module, but every entry is made into the common database. Hence, they turn into the informational basis of all the other modules in real-time (cf. Pollock and Williams, 2009).

developing three aspects of repair in the context of organization that the case of Company N. is pointing to. These are: the ubiquity of repair; repair as integration of labour and the (in)visibility of repair.

The organization

Company N. is a mid-sized metalworking business established in the 1950s. It has about 115 employees, most of whom work in production. The production facilities consist of seven assembly lines and even though it is a ‘fully-automated’⁶ production, every step of assembly is assisted by workers integrating the machine and the product-in-the-making. Each line ranges from raw material (coin-shaped aluminium platelets) through to the final product: printed cans, mostly intended for hygiene products such as deodorant and shaving foam. At the end of assembly, the printed cans are packaged and subsequently sent off to bottling (which is not done by Company N., but by its customers or their suppliers).

The production lines are the central element of the company. All the other units are arranged around the lines, serving and sustaining them in different ways (fig. 1). The activities at Company N. can be sorted according to a) the preparation of production, b) support during production and c) processing after production (fig. 1). This is roughly the way Company N. operates:

- a) Preparation of production: sales and production planning deal with setting up and coordinating production orders as well as signalling them to other departments related to production. The printing department develops the prints that go on the cans (in consultation with the client) and it prepares the printing template. The stock department provides the raw material needed in the first step of production.
- b) Support during production: the shift supervisor oversees and coordinates the production, which consists of three main steps: ‘pressing’, ‘printing’, and ‘pulling in’. Quality control checks the production in terms of quality measures. It makes sure that erroneous productions are filtered out. The electricians workshop and the tool workshop are ‘auxiliaries’. Their work is directed towards maintaining and repairing the machines making up the assembly lines. Together with the shift supervisor and the production manager, they provide spare parts, emergency interventions, updates, but also long-term improvements of the machinery.

6 Single quotation marks that are not followed by a reference indicate terms and statements originating from the field.

- c) Processing after production: the finished and packaged goods move on to the shipping department taking care of the delivery to customers. The accounting and finance department registers and processes the turnover. Management attends to the overall figures and their implications as well as long-term projects. The works council also attends to the overall situation, but with special attention to the quality and stability of the employments.

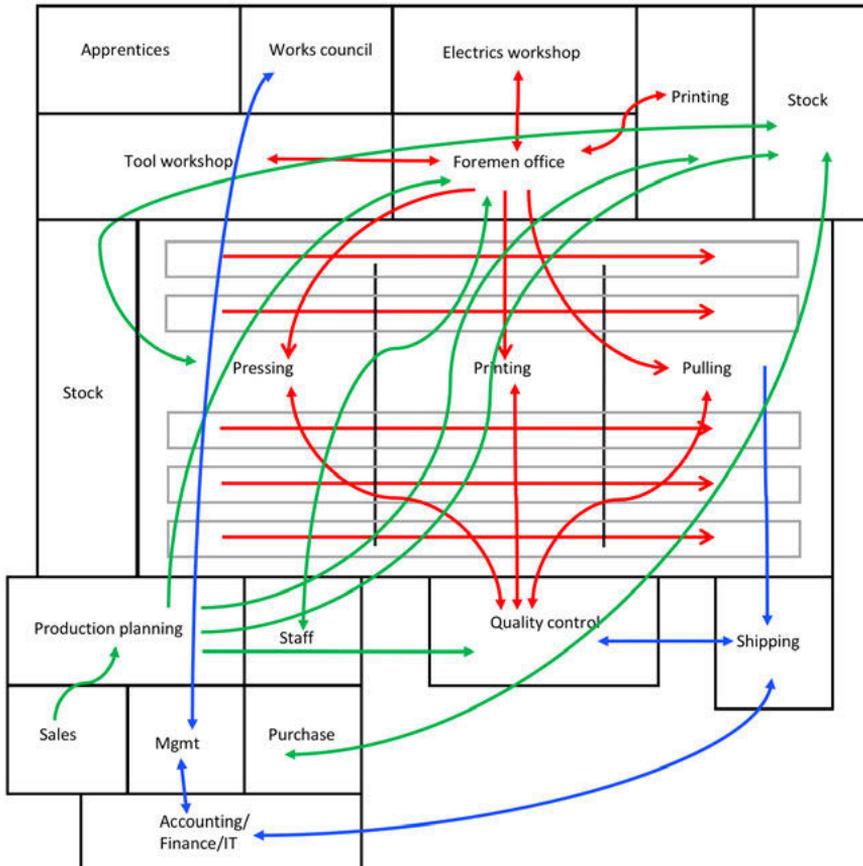


Image 1: The spatial and organizational structure of Company N., 2015: Green arrows – activities related to the preparation of production; red arrows – principal production activities; blue arrows – processing, clearing and evaluation of production activities. Drawing: author.

The coordination between the different steps of value creation is accomplished with the help of a series of tools and technologies, or ‘artefacts that organize’ (Ribes et al., 2013). The company uses an ERP system, but also a rather sophisticated analogue planning table which constitutes an important

communication node. There is also a well-established system of circulating papers in different colours. The employees further invoke 'leg work' and doing things 'on call' as ways of coordinating amongst each other.

Repair

As mentioned above, being in a phase of exception and change was one of the characteristics of Company N. making it a promising case for research. What I am calling 'a phase of exception and change' relates to the introduction of a new ERP system, commonly perceived as a complex process going hand in hand with significant measures of restructuring (e.g. Ciborra, 2000; Westelius, 2006; Pollock and Williams, 2009). At Company N., the process of introducing a new ERP system formally started in early 2012 and was completed in the middle of 2013 (according to management). The preparation of implementation as well as the implementation itself ('cut-over') caused numerous occasions for repair work: repairing the old database so that it could be migrated, for instance, or linking the new system to processes that were not compatible with it. However, next to this exceptional phase of repair, it turns out that Company N. can be considered as imbued with repair work. A lot of constant, daily repair work can be found there, even two years after the implementation of the new ERP system. The need to repair is intertwined with many, if not most of its processes and workflows – also beyond interventions and transformations out of the ordinary.

Exceptional repair

The decision to switch to a new ERP system is in itself an act of repair. It is occasioned by the concern that the existing ERP system is prone to work erroneously due to capacity problems. The story goes that the volume of data is too large and that it starts to overwrite old data sets. It is said to be 'extremely dangerous to continue working with this system'. According to managing director B., it could stop working reliably any minute and then 'no one knows what to do anymore'. The timing for a system change is far from convenient, but it is the 'necessary timing'. Introducing a new ERP system presents itself as 'bare necessity': 'we had no other choice.' It is an urgent act of repair occasioned by the perception of an emergency situation.⁷

7 But this story is amended by remarks which point in another direction, that is: maybe the timing is convenient after all. For a couple of years ago, Company N. has been bought up and it now forms one out of four different locations. Networking these four locations is said to be another idea behind purchasing a new and more elaborate ERP system.

After having agreed on this necessity, the next step consists of deciding on a specific software package and its provider to make a contract with. The management's main criterion for choosing a new system is its degree of dissemination. Company N. does not want to run a 'niche solution'. Hence, they decide on the ERP system dominating their sector: R/3 by SAP. It is the industry's standard. Managing director G. – one of the main advocates of the decision – has a lot of experience with the software. Its prevalence also makes it more likely to find people that are familiar with the system and with the process of transition. One of these people is F. who joins Company N. in June 2012 in order to support the process.

F. is placed within the production planning department which constitutes, if you will, the company's 'centre of coordination' (Suchman, 1993: 114).⁸ In the planning department, F. first of all gets to know the extant ERP system as well as the extant way of production planning with the help of an analogue planning table (fig. 2). In parallel, he is involved in the preparation of the system switch. This encompasses the migration of the existing database ('master data') to the new system. A 'data takeover' has to take place between the old and the new system. According to F., this is difficult in and of itself. A couple of adaptations of the master data are necessary in order to use it with SAP. In reality, the data migration is even more difficult because the master data is 'not a hundred percent well maintained'. 'It's just mistakes that happened or a lack of knowledge for whatever reason, it doesn't matter. I don't want to say it is topsy-turvy, but in a way, it is...' The lack of maintenance results from mistakes in minor details, for instance entering the postal code into the same field as the name of the city instead of entering it into the designated field. One of F.'s tedious tasks is to find and repair these kinds of mistakes in the master data so that it can be migrated.

The day of implementation, the 'cut-over', has to be postponed from December 2012 to March 2013. F. and the other employees involved in the system switch are not only struggling with the data migration, but also with the customization of the new system. This is a common procedure of tuning. ERP providers like SAP, Microsoft, Oracle, and Infor offer basic, generic programmes that are then customized according to the specifics of the sector.⁹ The process of customization is double-edged: on the one hand, the system should be adapted to local, well entrenched structures resulting from the concrete product and the

8 Suchman describes centres of coordination as a work setting that is 'dedicated to the ongoing management of distributed activities in which one set of participants is charged with the timely provision of services to another' (Suchman, 1993: 114).

9 This is often done by third-party suppliers who also provide industry specific add-on software (Pollock and Williams, 2009: 43).

company's concrete situation. On the other hand, adapting the software to local practices should not go too far. Changing the generic software makes it more prone to mistakes. Also, future software updates become more complicated (and more expensive). It is said that in order to make most use of the possibilities an ERP system has to offer, an organisational rearrangement is necessary. This way the system is more likely to unfold its potential for rationalisation and automation (Pollock and Williams, 2009).

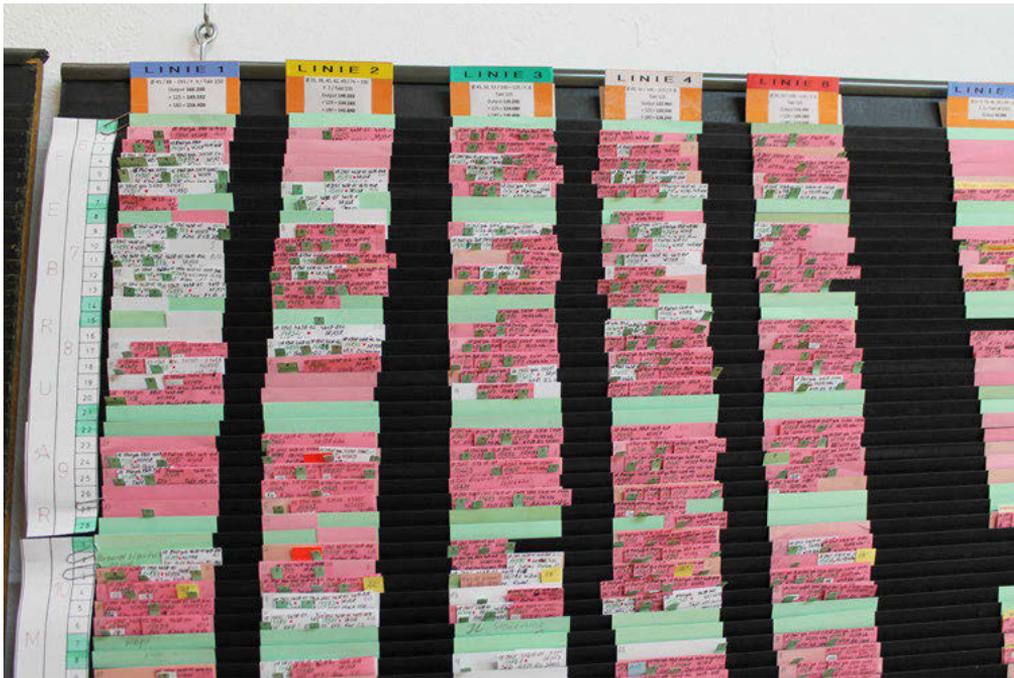


Image 2: The analogue planning table, 2015. Photo: author

In this phase of customisation at Company N., there is a lot of varying information about who will get to work with the new system and to what degree. This leads to uncertainty about who will need what kind of SAP training. Also, F. has doubts about the quality of information they have provided as a basis for customization: 'We were servicing, we provided the information. Depending on how good our information was, this is how good SAP will be in the end.' Yet, the day of putting the new system into operation is approaching. This is how F. envisions it: 'It will be a hammer coming down on top and then someone has to sweep up the pieces. You can be prepared for a lot of things and then in the end it will probably hit somewhere else.' He and his fellow colleagues don't feel they can plan for the cut-over. Rather they will just have to face the situation.

As expected, the day of implementation comes with a lot of repair work. I'm witnessing the situation in the planning department, where four people have teamed up to manage the day of the cut-over (fig. 3). These people have attended extensive trainings prior this day. In the old system, they have prepared production orders for the next two weeks to come. They are printed out several times (fig. 4) and the orders – represented by small handwritten cardboard cards – are properly arranged within the analogue planning table. Now, on the day of cut-over, the aim is to turn these prearranged orders into orders within the SAP system and its electronic planning table (fig. 5). The old system is about to be 'closed' by the IT department (this, too, takes more time and effort than anticipated). The new system is running on the computers. Starting to interact with it now – beyond the context of training and simulation – seems to be rather nerve-racking. F. and his colleagues are struggling with the new system's obstinacies and the way it behaves (e.g. automatically deleting entries if they have not been manipulated for more than a minute). They discover mistakes in the master data, wrong item numbers for instance, presumably ensuing from 'copy/paste-mistakes' and 'interface problems'. So, they resort to lists printed out from the old system, with the help of which they start double-checking the new system's outputs. The confusion within the master data was dreaded, but also somehow expected. A more unexpected smash eventually comes from missing labels needed for shipping. The shipping department does not know which labels and which kinds of numbers to use. Finished goods pile up from the warehouse, until the problem is resolved the next day.



Image 3: Note about cut-over in the planning table, 2013. Photo: author.

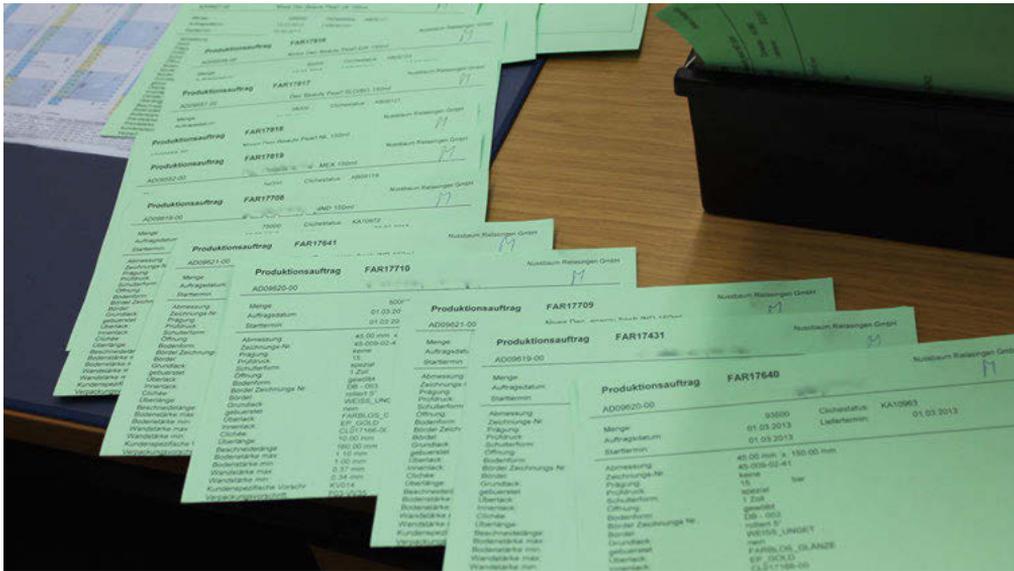


Image 4: Preparation for the cut-over, 2013. Photo: author.

ArbPlatz		Kurzbezeichnung	Anzahl	KW 10			KW 11			KW 12		
				05.03.2015	07.03.2015	09.03.2015	11.03.2015	13.03.2015	15.03.2015	17.03.2015	19.03.2015	
LINIE4	Linie 4		1	0	0	0	0	0	0	0	0	
				00000510		000005	600	600	600	600	600	
									00000902	600	600	

				Auf								
Auftrag	A	Zeich.Num.	Läng	KW 10			KW 11			KW 12		
				05.03.2015	07.03.2015	09.03.2015	11.03.2015	13.03.2015	15.03.2015	17.03.2015	19.03.2015	
1015351	A	45-002-03-93	193									
1015227	A	45-002-03-93	193									
1015736	A	45-002-03-93	193									
1015357	A	45-002-03-93	193									
1015354	A	45-002-03-93	193									
1012386	A	45-002-03-91	158									
1015203	I	45-002-03-91	158			00005510						
1015230	A	45-002-03-91	158				000005					
1015862	A	45-002-03-91	158									
1015367	A	45-002-03-91	158					600				
1015361	A	45-002-03-91	158									
1015360	A	45-002-03-91	158						600			
1015151	A	45-002-03-91	158							600		
1015366	A	45-002-03-91	158								600	
1015364	A	45-002-03-91	158								600	
1015365	A	45-002-03-91	158								600	

Image 5: SAP's electronic planning table, 2015.

At Company N., the change of system has always been announced as ‘turning the switch’. But instead of such a one-time switch, a lengthy and fragmented process is taking place. F. says: ‘It is a long switch, a rusty one.’ During the next couple of months, a ‘reciprocal tuning’ between SAP and Company N. occurs (Pickering, 1995: 20). More repair work is necessary. For instance, they collect those software problems emerging in the first months of use and pass them back to the

programmers at SAP to work on them. Also, some rearrangements are done in terms of who has to perform what kinds of inputs to the system. It turns out that the shift supervisors do not manage to service the system in the way it is necessary: they were assigned to register finished productions in the system running on the computer in the shift supervisors' office. However, their actual work – dealing with the heterogeneous and 'buggy' machines making up the assembly lines – was incompatible with the regularity demanded by the system. Taking care of the machines is a job marked by irregularity and urgency. If a machine fails, which is not uncommon at Company N., the shift supervisors are busy getting it back on track. This is their main priority. Hence, in situations like these, registering finished productions remains undone. But in this case, the ERP system does not allow the shipping department to proceed with the goods. This resulted in congestions and delays. In order to repair this situation, the task of registering finished productions has been passed back to the planning department. Either way, people from the planning department walk over to the shift supervisors' office several times a day to deliver papers signalling new production orders. When they walk back they now take a piece of paper with them reporting on finished productions. Back at their computers they transfer this information to the SAP system. Hence, paper and 'leg work' are used as means to fill the gaps left by the system.

The system switch is an exceptional situation causing a lot of exceptional repair work. The cut-over is unknown territory for almost everyone at Company N. There is no rule book to the situation, but rather it has to be faced and explored step by step. It turns out, the implementation demands good nerves and improvisation skills. However, it also turns out that this exceptional situation is just one part of repair work that can be found at Company N. At first, the system switch captured my attention, but it eventually led to the observation that the need to repair also shapes situations and processes rather unrelated to the system switch. Besides, the need to repair the SAP system turns from an exceptional into a constant issue, even two years after the cut-over.

Constant repair

The story of the shift supervisors' trouble to service the SAP system points to another instance of machine-induced workflows. This is the work in production. The rhythm and flow of this working routine emerges from the interaction with an error-prone production facility: every assembly line consists of a range of interconnected electromechanical machines differing in age and stemming from different manufacturers. Failure of certain machines is a regular element of the working day. The shift supervisors' work is oriented towards quickly getting the machines back on track and they do so by resorting to craft skills, experiences,

and the ability to improvise. One manager describes this as a well-trained attitude of ‘firefighting’, as opposed to working systematically and analytically on the prevention of disturbances. ‘Firefighting’ is a central mode of working in the production hall of Company N. There are even auxiliary facilities attuned to this mode: the tool workshop¹⁰ and the electronics workshop are located adjacent to the production hall with its staff always ready to be called to help with certain machine failures. For instance, while I’m interviewing the master electrician, his telephone rings and someone informs him that ‘the compactor is down again’. In a routine way, he packs his tools, walks over to the production hall, finds the respective machine and starts handling the cables and switches.

While the shift supervisors and their helpers are in charge of quickly tackling the daily breakdowns of the machines, the production manager’s job is to overlook the machinery as a whole. This more systematic and analytical way of dealing with the machines (not just ‘firefighting’) is done via the variable of breakdowns, too. The production manager mainly monitors and collects disturbances, their sources and subsequent downtimes. Next to using them for his own work of finding longer lasting solutions to the respective problems, he also turns this data into block diagrams and displays them to the staff in production. Reducing disturbances and downtime is the central aim of production management and hence the central unit to evaluate how well it is doing.

Taking the perspective of repair illustrates how Company N.’s whole sphere of production is imbued with breakdown and the resulting need for repair. This is not unusual or alarming. Rather repair is the ‘cultural mode of existence for technology’ in the production hall (Larkin, 2004: 306) that gets side-lined by default assumptions of stability and order as well as by the actual overall well-being of Company N. Breakdown and repair shape the workdays’ rhythm. The continued need for repair is also the workers’ source of perceiving themselves as doing something that is relevant to the company. To them, making sure that the machines are running is ‘the actual work’. Therefore, it is their improvisation skills swiftly bringing the machines back on track that they consider as being crucial for the company’s survival and its good performance. All the ado about SAP and the system switch seems like an upside-down situation to them: they do the crucial work and SAP should support it. However, it now seems like SAP is central and they have to support it.

¹⁰ The tool workshop is in charge of purchasing, modifying or building spare parts needed for defective machines. If there is time left, they also develop new parts that are aimed at improving the machines – making them run more smoothly or easing their maintenance.

Following the thread of constant repair shows that it is not constrained to the production hall, but can also be found in the daily work of interacting with the new ERP software. Two years after its implementation, it is generally perceived as running well and as having indeed contributed to Company N.'s recent improvements in performance. F. and J. from the production planning department claim they are well beyond struggling with the system. Like the production manager, the planning department has a failure-related unit of measuring the quality of their work: it is the amount of 'errors in production' caused by their planning. Hence, their evaluation of the SAP implementation process is based on the number of errors in production and these are, according to J., none: 'We didn't have any errors in production because of SAP.' This is a story of success, but at a closer look it is one of successful repair work on a daily basis.

J. and F. describe SAP as precise, but also as stubborn and cumbersome: 'SAP doesn't forgive any mistakes.' If something is not quite right to the system's logic it does not proceed. 'It turns red and you're stuck. Then you have to find the mistake.' This might also mean finding the person who has the proper 'access rights' to change whatever is wrong. The new software dictates its needs and its rhythm in a much stricter way than the old software used to do: 'In the old system, you could smuggle things past.' For instance, in a stressful situation, it was possible to 'just overwrite something'. It did not demand the same precision as SAP. The latter is stricter, which could be seen as beneficial and perhaps it will be beneficial in the future. But right now, this strictness is a problem, not only because it slows things down (by 'demanding more handgrips'), but also because it rests upon a data base that is riddled with mistakes, even though they are minor. Next to the errors within the master data already existing prior to the takeover, the system switch itself caused additional disorder. F. explains that part of the data takeover was 'also only done with EXCEL lists' and 'copying errors' occurred ('something got mixed-up'). J. comments: 'Interfaces, it was said, whatever that means.' There are also problems concerning the system's automation. For instance, the system chooses production lines by itself following technical criteria, but it does not take into consideration¹¹ whether there are free capacities on those lines or not: 'Then we realise, we don't have any free capacities on that line, so we have to decide on another line instead. Then we have to plan anew. This is still rather chaotic.'

At the beginning, J. and F. were 'railing now and again'. Now, two years later, they just 'got to know it': 'You have to *learn* how to use it.' Using the new system,

¹¹ Speaking of the system as a proper agent is taken from the interviewees. For conceptual considerations on this see for instance Latour (2005).

however, seems to translate into repairing it. J. underlines the central contribution of her experience and her comprehensive knowledge of Company N. that serves as a 'means of surveillance and protection' of the system: 'To me, knowledge is key. If you have been working here for more than 20 years and you are setting up an order, you immediately see if something is not right, if there is something wrong written in the article. You see it and then you remove it. But if you strictly followed the system, without the knowledge, the background knowledge, the biggest mistakes would happen.' Therefore, J. and F. check every production order they set up in the system and they do this by relying on their combined knowledge from experience: 'We still do this today, having another look at an order. We don't nod anything just through.' They agree that without them correcting the system constantly there would have been numerous errors in production. If they left the system to itself without adjusting and supplementing it, 'it would be a catastrophe.'

These extracts from Company N. suggest repair can be considered as a daily, never finished activity. Working routines are marked by failing machines and the ensuing need to repair. This is not only the case for the workers in production, but also for clerks like F. and J., information or knowledge workers if you like. Their daily work is entangled with the properties and obstinacies of the new ERP software. It has to be monitored and fixed constantly in order not to cause any trouble. Both, the information workers as well as the workers in production, interact with specific machines and this interaction translates into mending the machines' performances. They have to be repaired continuously in order to integrate smoothly with the context. If they were not 'darned' in this way, they would cause all kinds of minor and major disturbances.

Summary

Repair seems to be a rather ubiquitous activity at Company N. At least that is – maybe not surprisingly – what the analytical lens of repair suggests. Firstly, there is an exceptional situation, the introduction of a new enterprise software, demanding a lot of repair work. The implementation of a new system can be understood as a disturbance coming from the outside. It stirs up the existing information infrastructure consisting of well-established and well-known tools and their entanglement with the ways of doing things. People like F. are hired to accomplish the work of repair ensuing from the disruption. But many other employees also enter a phase of transition, learning and repairing. Here repairing means to articulate the new system and to integrate it into local and personal workflows. This demands a couple of adjustments from both sides: the software and the organisational processes. However, it can also fail. In the

production hall, the new tool collides with existing processes. Adjustments to either the system or the existing processes do not seem within the realms of possibility. What follows is a more comprehensive workaround including some kind of makeshift. In the case at hand it is based on 'leg work' and good old paper turning out to be an indispensable tool of repair.

Next to these exceptional needs for repair, there is a form of daily, permanent repair. At Company N., work in production encompasses the necessity to attend constantly to the 'buggy' machinery stemming from a range of different suppliers and varying considerably in age. 'Firefighting' like this is what one of the managers notes is a 'well trained attitude' at Company N. But also, the information workers of the planning department interact with a somewhat failing machine: the new ERP system by SAP. On the one hand, it is based on a database that is not free of mistakes, on the other hand, its programmed procedures do not always fit the context. It is strict and powerful in the sense of narrowing and automating processes, but precisely these features also make it susceptible to causing errors. Hence, there is constant need to check and adjust the system.

Discussion

In this final section, I would like to discuss three aspects of repair in organizational contexts that the case of Company N. as well as the literature on repair are pointing to and that seem to be worth exploring further: the ubiquity of repair; repair as integration of work, and making repair work visible.

Ubiquity of repair

The case of Company N. pointed to the ubiquity of repair. It does not have to be related to crises and situations out of the ordinary, but it seems to be part of day-to-day routine. Also, it does not stand in opposition to the overall economic well-being of the company. Repair appears as a permanent layer of organizational practice, as a sphere of attention and action that runs along and accompanies every activity. It revolves around the 'endless small forms of practical "subversions", taken up in the name of getting the work of the organization done' (Suchman, 2000: 313). This view of repair as encompassing the numerous routinized everyday practices of checking, correcting, supplementing, bridging, integrating, bypassing and so on corresponds with Henke's (2000) expansion of the concept of repair that has developed within ethnomethodology and conversation analysis 'meaning the practice of mending social order' (Henke, 2000: 55; Garfinkel, 1967; Schegloff et al., 1977). While its focus lays on discursive repair – the acts of filling the gaps of understanding in a conversation

– Henke recommits to repair as a material practice.¹² He describes the workplace as ‘a conglomeration of the social and material stuff that workers move through as they do work’ (Henke, 2000: 60). People’s bodies integrate with machines, tools and other people. Together they form associations or networks of skill. For Henke, skill is an ‘interactional effect’ (Henke, 2000: 61). It means to articulate, maintain, repair and secure the sociomaterial networks of doing a job.¹³ This idea is also relevant in the context of technologies of automation: Their alleged ‘magic’ relies on the continuous effort of configuring, calibrating and adjusting: ‘Such work of alignment is not a bug’, Lilly Irani (2015) writes, but an indispensable element of technologies of automation and a skill workers excel at.

Repair then, both in its discursive as well as in its material sense, directed towards both low and high technologies, constitutes a “built-in” feature of the workplace’ (Henke, 2000: 60). It attends to the numerous and indeterminable disturbances of sociotechnical associations, be it obstinate software, material wear out, responsibility disputes, ‘or a bird that flies into the factory’ (Irani, 2015). Repair work is not extraordinary, but on the contrary: it is the norm and it is that which ‘makes the workplace normal’ (Henke, 2000: 57). It is carried out by everyone and not just by those having the term in their job title. In the same way, every organization could be considered a repair shop in the first place, and a manufacturing business, a design agency, a government office or a citizens’ group only in the second.

Repair as integration of work

The division of labour means to divide work, but also to relate these divisions to each other (Strauss, 1985: 16). Anselm Strauss, Susan Leigh Star and Lucy Suchman develop the term ‘articulation work’ to describe a ‘supra type of work’ interlocking tasks, workers and units to form ‘the arc of work’ designating the totality of tasks (Strauss, 1985: 16; Star, 1991). “Articulation work” names the continuous effort required in order to bring together discontinuous elements – of organizations, of professional practices, of technologies – into working configurations.’ (Suchman, 1996: 407) Articulation work can be found on a small scale, when workers articulate their specific working environment in order to get a certain task done. But articulation work can also relate to larger scales, to

12 However, the fact that Garfinkel and his colleagues chose the term repair, points to their understanding of language and conversation as a material practice, having dimensions of time and space and resting upon collaboration instead of individual cognition.

13 For the concept of sociomateriality see Suchman (2007); for its reception in organization studies see Orlikowski and Scott (2008) for instance.

the integration of different steps of work accomplished by different units into a coherent process of value creation.

Articulation work includes or is commensurate with repair work, as the following specification of the concept suggests: it is characterized as ‘artful’, related to an ‘open horizon of mundane activities’ and aimed at ‘keeping [everyday working practices] working’ (Suchman, 1996: 407). It means to mesh and to patch ‘in the face of whatever contingencies may exist to hinder or impede the organization’s existence’ (Strauss, 1988: 1984). Failure of articulation work is described ‘in such terms as “Things are going wrong”’ (*ibid.*). Therefore, articulation work is that part of work attending to ‘potential organizational breakdowns’ (Strauss, 1988: 172). As Jackson sums up, repair is ‘itself a facet or form of articulation work (and vice versa)’ (Jackson, 2014: 223).

Articulation work is based on and intertwined with ‘artefacts that organize’ (Ribes et al., 2013). They are themselves ‘central sites and carriers of key organizational properties and functions’ (Ribes et al., 2013: 2). The stability and durability of organizations is linked to ‘artefacts, equipment, and material resources’ (*ibid.*) mostly neglected by social and organizational scientists. Ribes et al. underline the persistence, obduracy, and relentlessness of information technologies eventually concluding that ‘[o]rganizing is sustained by technical actors’ (Ribes et al., 2013: 10). As mentioned and explored above, Company N. relies on an ERP system, a planning table, the circulation of paper, doing things ‘on call’ and ‘legwork’ in order to coordinate different steps of work. These are the company’s tools of mending the division of labour, integrating and sustaining the organization as a whole. But in the case of Company N., it was the SAP system that prevented the smooth integration of labour and that therefore needed repair. Contrarily to the assessment of Ribes et al., the system’s persistence, obduracy, and relentlessness posed a problem. Thus, it is probably worth following up on how successful articulation work relates to the obduracy of systems.

Making repair work visible

Many texts on repair argue that it keeps being neglected, overlooked or ignored (cf. footnote 1). Within the ‘productivist bias’ (Jackson, 2014: 226) the ubiquity of breakdown and repair comes as a surprise. Dealing with disruptions, gaps, and inconsistencies is then described as belonging to the realm of ‘informal tasks and “behind the scenes” work’ (Star and Strauss, 1999: 9), work that is not part of the job description, but at the same time crucial for getting the job done. Yet, ‘[n]o work is inherently either visible or invisible’ (Star and Strauss, 1999: 9). Rather,

the question is *what the visibility or invisibility of certain kinds of labour reveals about structures of power, knowledge and agency.*

The scenes of repair from Company N. hint at this entanglement between repair work, its invisibility, and struggles of power. Purchasing SAP is motivated by repairing the organization's 'arc of work', hence the way it integrates different components of labour into a coherent whole. On the one hand, it is said to *replace* the predecessor system being at the brink of breakdown. As an 'artefact that organizes', it would then cease to sustain the organization meaning that 'no one knew what to do anymore'. On the other hand, SAP is also supposed to *improve* the integration of labour. As Company N. was bought up a couple of years ago and now forms one out of four different locations, SAP is expected to help the networking of those four plants. This not only means being able to access and monitor their respective processes via the software, but also to standardize them so that they can eventually be managed in a more centralized way. Hence, rather than just replacing the old erroneous system, SAP comes along with the idea to restructure existing and locally shaped ways of doing things. It follows that these local skills and the related knowledge are subject to devaluation. Instead, being able to handle SAP is now what makes an employee more valuable and less replaceable.

But, by making repair work visible, it becomes clear SAP does not fully live up to these high(-tech) expectations. Firstly, the lens of repair has exposed that working with the new system translates into constantly aligning it with local requirements. It is not only F.'s knowledge of SAP that is crucial to articulating it, but also J.'s extensive knowledge of the company. Due to her familiarity with the company's products, machines, and processes they are able to monitor and correct the system. As they say, they never leave the system to itself. Secondly, the case has shown how the pressure to service the system is resisted by referring to the pressure of keeping production up and running. The workers in production make the claim that without them attending to the 'buggy' machinery making up the production facilities there would be no product to manage and sell – no matter whether SAP increases overall efficiency. They push back against the management's plans by pointing to the importance of their skill set of continuously preventing the breakdown of production. Hence, rather than succeeding in streamlining locally shaped workflows, SAP actually relies on local adaption and regulation – the work of articulation and repair. This way, SAP becomes part of the struggle over power and resources between different parties. In the face of automation and rationalization, it is through the necessity of repair that workers (blue as well as white collar) reclaim their value.

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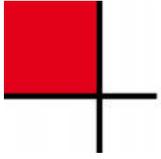
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Repair practices in a virtual smartphone community: Fostering more sustainable usage through branding

Frithiof Svenson

abstract

In recent decades, consumer culture has turned the mobile phone into a marketplace icon. Despite consumers' fondness for the functionalities of these devices, mobile phones come at a considerable cost, leaving both ethical and environmental 'footprints'. This article discusses consumer's repair and maintenance practices of smartphones as outcomes of the constitutive contexts that ethical brands may provide. The objective is to provide a better explanation for the emergence of such practices around organizations. Social practice theory approaches to consumption often consider teleo-affective structures or engagements to be key in transforming bundles of practices and material arrangements of everyday life. The article traces the idea that branding transports affects as consumers appropriate their phones through performances of tinkering and fixing. Inspired by a consumer culture theory reading of social practices, this article conceptualizes brands as an organizational vehicle needed to transport affects. Seen as cultural systems, brands therefore carry the potential to leverage affects towards repair and maintenance practices. Focussing on the role that ethical branding can play in the creation of public encounters with concepts, practices and embodiments of sustainability, the paper presents findings from a netnography of a brand community. In doing so it highlights how brands persuade consumers to introduce bystanders to repair and maintenance practices of smartphones. This article claims that leveraging consumer engagement through ethical branding is a practical and effective way to promote sustainability. Further suggesting that brand sustainability imperatives translate into cultural conversations and political processes that help to imaginatively examine and re-figure the intersectional challenges of sustainability.

Introduction*

Most information and communication technologies (ICTs) are produced in the Global South, where working conditions have exhibited a lack of social sustainability (Litzinger, 2013; Reardon, 2012). Social enterprises, which engage in efforts to improve manufacturing practices, also confront the fact that the bulk of dumped electronic goods enters second-hand industries in the Global South. At the end of its life cycle, a consumer electronic device has spent at most two years as a consumer's intimate companion. However, much of these devices or their components enter landfills, creating both health hazards and causing environmental degradation (Maxwell and Miller, 2012). More sustainable consumption patterns are sought-after to prolong ICTs' lifetime. Here, repair and maintenance practices can be understood as consumer actions that aim to address some of the wide-reaching challenges of sustainability.

Consumer research and cultural studies attend to the collective definitions of worth involved in repair and maintenance (Rosner and Ames, 2014). In contrast, research on marketing and brand management seldom considers repair and maintenance explicitly. Brands and branding contribute to the cultural phenomenon of 'throwawayism' that also prompts some consumers to resist their over-consumption (Albinsson et al., 2010). In sustainability marketing research, Dobscha and Prothero propose to consider exploring 'the overconsumption patterns of the North that then fuel environmentally devastating manufacturing and distribution practices' (2012: 387). As the discourse on conflict minerals has shown that the continuous consumption of scarce natural resources goes hand in hand with the spread of ICTs (Mantz, 2008). Production processes in the Global South are often governed by necrocapitalism, which in the present context circumscribes the way global capitalism profits from disparities in the distribution of wealth and the tacit acceptance of health hazards that govern production processes in the Global South (Banerjee, 2008; Grzanic and Tatlic, 2014). These critical perspectives highlight how labour is subjugated to capitalistic interests that serve to solidify socio-spatial injustices (Chouinard, 2014). Increasingly, brands are held accountable for the manufacturing practices that they assign to their suppliers

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(Humphrey and Schmitz, 2001) as well as the burden their products pose to the natural environment (Iakovou et al., 2009). At the end of a product's life, consumers often store their old devices at home, instead of entering them into reuse or recycling systems (Speake and Yangke, 2015), which are in place in many countries.

Brands that diametrically oppose overconsumption and display greater accountability towards stakeholders challenge the prevailing consumption patterns, while working within the existing market system. There have been advances to conceptualize this phenomenon as ethical branding (Rindell et al., 2011) or as instances of social entrepreneurship (Peterson, 2013). These perspectives leave out the repercussions of ethical branding as found in consumer practices. In addition to the meaning that branding creates, consumers co-create meaning as they engage with the product and other consumers. This forms interpersonal relationships centred around brands (Fournier, 1998) yet until now, consumer research studies mention repair and maintenance practices with roots in ethical branding infrequently. The alignment of marketing and consumer research promises to surpass this blind spot and provide a better grasp on market phenomena taking place around organizations (Denegri-Knott et al., 2006).

The next section of this article contributes to an improved understanding of how brands may become emissaries of sustainable practices. This serves to articulate a re-definition of socio-political imaginaries (Castoriadis, 1987), integrating macro and micro perspectives on sociality to grasp consumer-marketplace interactions. In the empirical part of the paper, insights from a netnography on a smartphone brand community in social media illustrate how repair and maintenance practices are grounded in brand community practices. The concluding discussion highlights the significance of repair practices as organizing processes within the existing market system.

Brands as emissaries of sustainable practices?

Market logics are among the 'templates for action and understanding available to most people' (Papaoikonomou and Valor, 2017). Given the ubiquity of brands, it is fair to say that the process of branding is among the logics of capitalist markets into which consumers are socialized daily or learn to resist (Mumby, 2016). When the very process of branding is reworked and transformed away from unsustainable practices and expresses resistance to capitalist realities, ethical branding stands in a more positive light. In such a scenario, ethical branding appears to be a pragmatic beginning directed at the creation of more sustainable markets (Lehner and Halliday, 2014). Brands that connect stakeholders inside

and outside the organization (Conejo and Wooliscroft, 2015) may well pursue the objective of transforming consumerism through ethical branding (Arvidsson, 2011). This faces several transactional obstacles, which stem from macro and micro cultures, as well as legal issues. Yet, such work sees the solution to overconsumption in 'alternative economies as systems of exchange, production and consumption partly or fully disembedded from modes of capitalist exploitation, aiming to empower their subjects and to provision community-based and broader social-environmental welfare' (Campana et al., 2017: 126). Therefore, repair and maintenance practices have to be explained through their embeddedness in consumers' ongoing life and social context (Graziano and Trogal, 2017) rather than by relegating it to the realm of attitudes (Moraes et al., 2012).

For too long, marketing and consumer research located consumption in the realm of decision-making alone (McDonagh and Prothero, 2014). Inspired by methodological collectivism, consumer research increasingly regards consumers as practitioners in multiple everyday contexts. By defining the unit of analysis as repair and maintenance *practices*, the realm of social life that is targeted requires a research approach that is common in sociological approaches to consumption (e.g. Warde, 2017; Woermann, 2017). Such a focus on interactions among consumers targets recurring patterns of social action in order to discern the collective nature of a praxis.

Repair and maintenance practices benefit from an organizational vehicle with a broad reach. Through branding these practices may help transform the dominant mode of social and ecological organization, where it is hoped that brands targeting discrete areas of everyday needs can help to embed sustainability in ways which matter to consumers (Ottman et al., 2006). This would involve value propositions that are directed at the *value-in-use* in consumers' lives (Vargo and Lusch, 2004). Brands that seek to foster sustainability have to connect to consumers' identity creation projects (Arvidsson, 2008), in addition to being of use to them. For example, this might be seen in the ways that consumers identify with an ethical brand's attempts to *safeguard* workers' rights in the Global South. Reckwitz (2012) considers artefacts to have a place in social practice theory as generators of affect. Unlike the term emotion, affect connotes with the human body (Massumi, 2017). Since practice studies take into account bodies and minds of participants to a practice affect is increasingly discussed in this literature (Gherardi et al., 2018).

A recent review article highlighted that 'affect maintains and strengthens a problematic social order as much as it contains the potential for transforming it' (Fotaki et al., 2017). This article endeavours to answer the question of how repair

and maintenance practices are nested within branding practices, and how these may lead to the formation of resistant consumer identities. To answer this question, I turn to the meaning that ethical brands give to the objects they produce and sell. This serves to gauge how the distributed nature of affects may arise and constitute latent potential for action (Rai, 2015).

In critical organization studies, resistance to the ruling consumerist paradigm has recently been labelled as insurrection, defined as ‘discursive and non-discursive practices that are collective and public, owned and publicly declared, taking a stand, and thus unambiguously oppositional’ (Mumby et al., 2017: 1163). Consumer practices of repair and maintenance are examples of insurrection amid a consumerist paradigm of *more and more*. Such phenomena are particularly puzzling when they originate in the branding processes of consumer goods. In post-work movements these practices have been understood as resistance practices (Graziano and Trogal, 2017), yet, simultaneously consumer culture has been regarded as the sole origin of collective consumer practices (Little, 2009). To account for the meshing of brand and consumer practices, this article invokes Consumer Culture Theory to illuminate the constitutive context in which such repair and maintenance practices thrive.

Cultural approaches to brands offer a more nuanced understanding of the broader context in which consumption takes place, taking discourse and action into account. ‘[C]onceiving brands as cultural systems ...provides a framework connecting stakeholders inside and outside the organization’ (Conejo and Wooliscroft, 2015: 9). In critical marketing research such as Consumer Culture Theory, ‘the dynamic relationships between consumer actions, the market-place, and cultural meanings’ (Arnould and Thompson, 2005: 868) give rise to a perspective that regards consumption as a set of performances that ‘actively rework and transform symbolic meanings encoded in advertisements, brands, retail settings, or material goods’ (*ibid.*: 871). In this article, Consumer Culture Theory perspectives help to understand the organizing processes emanating from branding. The approach is pragmatic since it seeks to understand how brands practically leverage consumer culture towards more sustainable practices. It thereby answers calls by Gibson-Graham (2006), among others, for a more in-depth understanding of alternative economies within the existing capitalist system.

Sustainability-oriented branding in the market for smartphones – A brief description of the netnographic site, the Fairphone community

The market for smartphones is characterized by few competitors and rapid innovations (Cecere et al., 2015). Most smartphone brands promote the rapid replacement of older devices and while the cost economies for higher-priced smartphones render professional repair worthwhile for most consumers, for the expanding segment of lower-priced smartphones, repair is not economical. The Fairphone (FP) is a pioneering, sustainability-focused brand in the smartphone product category. The FP project and its brand community, the Fairphone Community (FPC), have put forward definitions of *fairness* in this market. In the brand narrative, the term fairness applies to a key objective of the venture: to improve, and raise awareness of, the working conditions of blue-collar workers in the Global South. Labourers involved in the production of the Fairphone device enjoy welfare through fair wages and working conditions. FP also pursues the goal to set up a worker welfare fund to generate further positive impact for labourers. Furthermore, tungsten from a conflict-free mine in Rwanda is part of the current supply chain. These efforts to connect stakeholders around the organization (Conejo and Wooliscroft, 2015: 9) can be said to forge ‘new forms of solidarity, new forms of resistance, and give voice to marginalized and relatively powerless groups’ (Clark, 2009; Mumby et al., 2017: 1175). In addition to manufacturing issues, further sustainability-oriented matters have come to be associated with the FP as users reinterpret brand meanings of fairness.

The first FP product, a smartphone developed exclusively for the European market, was far from ‘bug’ free. After one year on the market, a brand-hosted online platform was launched to facilitate interactions and mutual support among users, which also engendered a range of face-to-face user group meetings and ‘brand fests’. The netnographic site of study, the online forum of the FPC, hosted the discussions that treated problem solving in relation to device malfunctions. A grassroots community who provided crowdfunding to get the production of the device started, remained faithful to the cause and later would often help by providing support to users struggling with the device. The first FP device was sold to 60,000 users within the European Union. This study covers the first 18 months, following the establishment of the brand community forum. Four years after the release of the first FP, the brand announced that they ‘would no longer sell parts for the Fairphone 1, and have stopped developing the software upgrade to Android 4.4’ (Fairphone, 2017). The economic feasibility to maintain this service over time diminished leading the FP to conclude that they needed to stop supporting this device. Instead, they would focus their efforts on supporting the recent version of the Fairphone. Like other electronics brands such as the Apple Newton, consumers’ repair and maintenance practices

persisted, in spite of the brands themselves abandoning support for their own products (Muñiz and Schau, 2005).

Netnographic procedures

This research applies netnographic procedures by using publicly available online information about interactions among users in order to explore the culture of consumption communities (Kozinets, 2002). Most of the data for this research consists of postings that members send each other via the English language community forum. This forum is the primary place in which repair and maintenance practices are shared and discussed. The author has engaged in non-participant observation and after six months began using a FP device. This author's brand community membership provided an additional auto-ethnographic perspective that helped to further empathize with the community practices and its mission. The theoretical sensitivity (Glaser, 1978) towards 'sustainability' guided an initial manual selection of 58 discussion threads (topics) from approximately 200 topics in the Fairphone forum. Some of the selected themes covered included cultural practices, such as day-to-day routines, the work that is performed during smartphone use, and troubles coupled with cognitive aspects or meanings (Lofland et al., 2006); for example: engagements with other electronic devices oriented towards fairness and brand-related conversations. In order to gain an understanding what sustainability means in this context open, and then focused, coding (Saldaña, 2016) was applied to the selected postings. The analysis followed the constant comparative method (Schatzman and Strauss, 1973) and evolved until the cultural themes of the constitutive context were sufficiently condensed.

Findings

I think FP has a much more innocent image than other big ICT companies and clearly FP owners don't just want to possess the device but spread the word about important issues [societal challenges] as well. (posting)

Too many people I know have iphones. Every day commuting to university I see the overpriced hardware from a company supporting child labour and slavery. It is exactly the opposite of what we support here. (posting)

These statements from two members of the FPC illustrate that for these sustainability-oriented users, the smartphone is a distinct and controversial consumer product loaded with social, political, and ethical meaning. The conceptual framework of brands introduced earlier serves as a basis to interpret the data. This section delves into the political, social, aesthetic and functional distinctions that the brand community uses to distinguish itself, where repair

and maintenance practices are part of these bundles of distinctions. They are non-discursive performances that provide a form of overt distinction when carried out in public, or they become discursive practices when reported online. Following this, I then describe the performances of *doing* sustainability-oriented smartphone consumption within users' social environments, which implies a diffusion of repair and maintenance practices. Finally, the last section unveils how this brand community endeavours to redefine socio-political imaginaries of smartphone consumption. As the brand is addressing several sustainability challenges, like fair wages for the production workers, product design for reparability, and hosting a peer-to-peer problem-solving platform, the brand's tangible input encourages users to join the *praxis* of sustainability-oriented smartphone consumption.

Repair and maintenance as brand use against 'throwawayism'

High involvement goods are possessions with a marked cultural significance and a utilitarian value (McCracken, 1990: 144). Smartphones belong to this category. Some even go as far as to proclaim that the smartphone has replaced the automobile as a bearer of cultural significance and status symbol. Buying mobile phones once was an exceptional purchase but mass production has made these devices very affordable. Smartphones break down as a normal condition of their existence. For users such technical breakdowns routinely cause a personal crisis, demanding adjustments in users' on-going life (Schatzki, 2016). Buying a new phone to replace an old one was the only option available to most consumers. The repair and maintenance practices that accompany the FP brand promise insurrection to *throwawayism*. The dissemination of such novel practices through the FPC help to contest the routine way of dealing with broken smartphones. The meaning attached to these performances carries a vision of breaking the routine practiced by the throwaway society. Ethical branding provides culturally specific affordances that enable repair and maintenance practices. In this sense, ethical branding, consumer culture and design for reparability have a role to play in transformations towards sustainable practices. In what follows, the meanings that ethical branding attaches to the smartphone device will be discussed.

Evangelizing as found in the practice of disassembling the smartphone

There is a general understanding among brand community members that the movement for fairer electronics thrives on enlightened practitioners who are capable of instructing new comers by two means: online and on-site. In consumer studies to 'evangelize' usually means to promote something enthusiastically, almost as if preaching the gospel. Therefore, evangelizing for sustainability-oriented repair practices is not restricted to a specific brand. Text-

based interactions online provide peer-to-peer problem-solving. Users perform the brand narrative, as they carry out problem-solving procedures on-site. This means that the brand's vision becomes enacted in bodily-mental performances. When a phone is broken, it is sometimes necessary to disassemble it – the tutorials and narratives posted online present how easy it is to take apart the Fairphone, enacting a powerful product feature. This feature is a strength that is directly tied to the value of fixing, which many community members embrace. Committed members promote such practices to inspire people in their social environment to use the FP and *join the movement*. Disassembling the phone simply for one's amusement is a performance feature in itself and part of the impression management users carry out in favour of the brand's mission. Through Fairphone's design for repairability, consumers have the capability to routinely carry out maintenance practices and act on their desire for environmentally sustainable consumption. Bystanders, who witness the performance, become introduced to the perceived benefits of the brand. By evangelizing for the brand, participants display their commitment to the phone's social and ecological justice mission. Seen as performances of sustainability-oriented smartphone consumption, repair and maintenance practices are not isolated phenomena, but are tied to the brand's wider cultural logic. These performances are directed at solving a problem, exercising care and educating bystanders.

The notion of goods as bridges to displaced meanings

The term *displaced meaning* (Barthes, 1972; Derrida, 1976) refers to the process through which humans give meaning to cherished objects and to their relations with them. This term has been widely appraised in Consumer Culture Theory (cf. Firat and Venkatesh, 1995; McCracken, 1990: 116), and also refers to consumers' longing to access 'cultural reserves' (Davis and Kravets, 2005). Pursuing greater fairness in consumer electronics can be such a cultural reserve; it is an example of a higher end that requires the performance of several tasks in order to achieve it. For Barthes (1972) mythification facilitates access to affects. Through participating in the community, users may enter 'affectively significant relations' (Arvidsson, 2011). When product design incorporates cultural reserves, mythification can evoke new affects. With this understood, smartphone devices have the potential to become bridges to displaced meanings of sustainability in the smartphone industry if at least some components of the product display the desired orientation towards sustainability.

Groups make objects the "objective correlative" of ideals that have been transposed to the [...] future. These objects can be [...] the emblem of any group that looks forward to the realization of ideals that are now unfulfilled. (Firth, 1973; cited in McCracken, 1990)

Branding attaches meaning to the item and therefore usage of the FP device makes sustainability appear accessible, providing a bridge to symbolic-functional notations. Repair and maintenance practices make sustainable usage tangible.

Distinction

The FP is a front-runner in sustainability-oriented smartphones, being also referred to as fair ICT (Herzog, 2015) and is distinctive in this domain. Its marketing approach is based on 'the ability to create affectively significant relations' (Arvidsson, 2011: 268), leading to an 'ethical surplus' (Lazzarato, 1997, cited in Arvidsson, 2011) which is shared and created by the brand *and its community*. This notion entails a:

sense of the ability to create the kinds of affectively significant relations, the ethical surplus, that are able to tie participants to a project, motivate them to keep supplying their productive input, and give a sense of meaning and purpose to their participation. (Arvidsson, 2011: 270)

The spread of repair and maintenance practices benefits from this ethical surplus. Maintaining the functionality of a device is necessary for any user, therefore, it should be a straightforward task. However, many users would find maintenance difficult, if it were not for benevolent community members, who provide their advice in peer-to-peer problem-solving forums. The brand consists of at least two distinct sub-groups: ethical consumers and hackers. These two sub-groups vary greatly in their level of expertise and their commitment to repair and maintenance practices.

There are *political distinctions* at the brand's core, which are clear and outspoken messages that the brand embraces. Here, the brand narrative about fairness is circumscribed by the term 'agreeableness', namely being appreciative of others, supporting, and expecting others to be equally helpful. The brand's story, deriving its legitimacy for its care for workers, is transposed to the object, arousing positive sentiment in consumers in anticipation of a purchase. Some of the testimonials posted on the FPC-forum exemplify this sentiment:

Hearing about the Fairphone project got me so enthusiastic about their method of going for a fairer and sustainable electronics market that I wanted to have one to vote with my wallet for electronics that are made with other principles than just profit and cost-efficiency. In addition, the whole vision of Fairphone and the way they are working to make that vision come true makes me very happy and turned out to work like an anti-depressant when reading the site. (posting)

The ethical branding of the FP transports affects with a collective orientation in favour of social and ecological justice. The above posting by an admirer of the

brand may be explained through the anthropological concept of object-meaning: the FP device ‘comes to concretize a much larger set of attitudes, relationships, and circumstances, all of which are summoned to memory and rehearsed in fantasy when the individual calls the object to mind’ (McCracken, 1990: 110).

The FP device is designed for reparability, so that individual components can be easily replaced. Users are encouraged to do basic maintenance on their phone without needing the support of professional repair technicians. Through collaborating with iFixit (2018), FP users have also published a number of lay-repair guides. Users can carry out repairs with smaller budgets and consequently users also interpret *design for reparability* as fairness vis-à-vis consumers. As this example shows, consumers routinely rework brand meaning; so that, the ethics of fairness become a benchmark for anything the brand plans or decides.

The *social distinctions* within the community are those phenomena that result from immediate contacts among FP users and their social environment outside the group of enthusiasts. The marketing system for smartphones fosters disregard for blue-collar workers in the global supply chain. FP users share an additional political reason for using this device; consumers sense the industry’s callous disregard for the external stakeholders involved in manufacturing smartphones. Major players in the industry have become associated with unethical conduct. Within the narrow confines of everyday consumer actions, users resist this development.

A further example of a bridge to a displaced object meaning may be observed in the FPC-forum. One user, introducing himself as a friar from a religious order in the Mediterranean, posted an open question to the community: ‘Will agreeableness be accessible to me?’ (posting). This user contemplated the purchase of the FP device: ‘I promised to live in poverty, chastity and obedience’ (posting). While contemplating the use of the FP device in his immediate social environment, this user expressed the desire to proclaim proudly: ‘It’s possible to be fair and sustainable and free!’ (posting)

For highly committed FP users, spreading the message about socio-spatial disparities in the global economic order is second nature. Therefore, dedicated users consider it their obligation to produce a sustained impression of the brand object in their social environment. Bystanders’ reactions, or lack thereof matters. Sometimes when the social environment does not respond with sympathy or appreciation, FP users would return to the online forum to discuss what went wrong. Users also shared advice on how they have managed to convince people to buy a FP device, ‘evangelizing’ (Muñiz and Schau, 2007) by carrying out overt performances of the brand:

Thing is, I've often heard people complaining that the FP (the device) isn't agreeable at all but these people just have no idea what's behind the whole movement. I most often tell them about the worker welfare fund in the factory in China and the selection of conflict free mines. Those are examples that people understand. Generic comments like "more ethical", "fair" and stuff like that doesn't hit home with many people. (posting)

Product design offers opportunities to accentuate political and social distinctions, in addition to the well-known functional distinctions of smartphones in general. Yet it also offers *aesthetic distinctions* of the product, supporting the meanings that consumers construct (Du Gay et al., 2013). The FP is a future-oriented vision; the individual object (in this case, the FP device) integrates symbolic features of the brand narrative into the design of the product itself. Distinction is a well-known concept in product innovation and bears the advantage of endowing the brand community with a tangible reference point. Signs facilitate that the brand's shared meanings become materialized in the product. Aesthetic clues help FP users to recognize other FP users in their social environment, examples include, the brand's specific ringtone, or the easily removable outer coating. Other, subtler aesthetic clues include an image of a star, which adorns the device and is represented in the corporate logo. When the FP device is disassembled, an image of the contours of the political boundary lines of the Democratic Republic of the Congo appears, as the country hosts a mining industry that supplies ores like tantalum, tungsten and tin, all essential for smartphone components. The star is a common symbol of liberation, and by using the star FP aims to draw attention to the working conditions in the Global South, and visually serves as reminder that for example, the FP is in a struggle to improve working conditions for miners in the Congo, as well as for production workers in China, where most smartphones are currently assembled.

The FP device is a product that aims to make agreeableness accessible. Consumers use it to realize their ideals; thus, it promises an ethical surplus, in addition to the use value of a smartphone. At present, only some ethical objectives may be realized. This marketplace offering has been transformed from a concept of computer ethics into a smartphone. The concept of displaced meaning defies an empirical test in the strict sense (McCracken, 1990: 110). The ethical surplus, which users co-create, is attributable to the affect generated by ethical branding. A dominant cultural theme that emerged from interpretive analysis is that of *the ideal is possible*. This theme reflects the (im)possibility of an absolutely *fair* smartphone and the progress that the brand and its community have achieved towards the sustainability ideal.

The *Functional distinctions* of FP products are concerned with the usability. The FPC draws users with a range of different influences and desires. These users do

not boast that they have the most high-end smartphones on the European market, but rather in terms of hardware design, the pragmatic notion ‘for now, this is as good as it gets’ applies. Many in the community have product-related knowledge and acknowledge the downsides of using a micro-computer with several bugs, built by a company that is independent of major players in the industry. This trade-off between agreeableness and ease of use shows in this post:

Even though my FP has some small spleens and childhood diseases I’m quite happy with it. (posting)

There are also dissatisfied users whose expectations vis-à-vis the smartphone were disappointed. Some of these *converts* also share their experience of joining and leaving the FP *movement*. Such public contestations of brand legitimacy are a call to arms for admirers of the brand, who then engage in discussions to find out whether the claims are justified.

Many members of the FPC are highly involved in brand consumption: the practice of evangelizing is combined with displays of product-related knowledge and user experience.

I have been crunching for science on my FP since day 1. I changed the settings of BOINC [Berkeley Open Infrastructure for Network Computing] to only run at 100% battery charge just to be on the safe side (standard is 90%?) and use all 4 processor cores (was only 2). So far I haven’t found any problematic issues. (posting)

In addition to the meanings that the brand narrative projects onto the FP device, a user-culture with distinct sources of meaning has formed around this smartphone. Calls for additional ‘functional distinctions’ of future models originate in a multitude of locales. For example, in 2014, roughly 30% of users reported having a technical or engineering background (Fairphone, 2014). Many of these tech-savvy users are committed individuals who dedicate their spare time to support newcomers seeking help with the FP device through the forum. Often in online communities the norm of generalized reciprocity serves to lend support to others without an immediate compensation (Onyx and Bullen, 2000). Some tech-savvy FP users, also known as hackers, want to be recognized *as contributors* to the FP which they see as an open innovation project. For them, functional distinction lies in the open design of the FP. Committed users may even threaten to abandon their instant support for newcomers on the FP forum when they perceive Fairphone’s lack of appreciation for their contributions :

We are left absolutely in the unknown about the features of the new device. I personally must say that the whole FP thing cannot be a one way street, I have

posted so many replies in the repair forum to help less experienced users, I somehow expected a bit of appreciation, at least some information [about the release date and features of the new device. It] feels like we are left completely in the dark. For the future, I think information management of the FP can be improved, otherwise I'm out. (posting)

Discussion and conclusion

Earlier accounts of repair and maintenance practices often focussed on grassroots initiatives, which can be seen as subcultures of consumption in their own right (Izberk-Bilgin, 2010). Ethical branding however, recruits consumers with diverse motives towards repair and maintenance practices. The consumption community considered here displays within-group differences, regarding their aptness for repair and maintenance, and their zeal for the social and ecological justice mission of the sustainability-oriented smartphone. The community sub-group of hackers displays a high commitment to tackle the intricacies of consumer electronics and gets involved in problem solving. Here the design of material arrangements transports affect (Rai, 2015) through ethical branding, while the aesthetics of the brand narrative remind users of the sustainability objective that they have pledged to support. Consumers who are less committed to micro-practices of fixing and tinkering benefit from online peer-to-peer problem solving platforms. The online brand community that has formed around the FP is an example of a social context that experiments with devices and strives to develop new practices. The brand community facilitates social interactions by assuring members of their conduct and applying their acquired skills to engage in evangelizing in the social environment. The work-arounds carried out in problem-solving may depart from existing routinized practices. Such deviations may be required while 'generating more sustainable practices [...] before being replaced and re-made in more sustainable ways' (Hargreaves, 2011: 84).

The findings reveal that a constellation of shared distinctions – such as fair ICT in the domains of workers' rights, open software and reparability – combined with peer-to-peer problem-solving-knowledge forms the social foundation of the brand community. This shared meaning ties in with an emotionally laden goal to bring about more sustainability in the smartphone industry. For members of the brand community, the device represents a proof that the ideal is possible. FP users not only share the brand's *good news*, but they also carry out performances of dis- and re-assembling products. These micro-social practices serve to display other aims of the FP project, such as increasing the longevity of smartphones.

Inspired by a social practice-theory approach to consumption, this article has used netnography to redraft sustainability-oriented consumption as an intended rupture of mainstream routines around smartphone consumption to focus on repair and maintenance practices. For critical marketing research, this conceptual shift towards social practices and material arrangements reveals the nexus that exists between everyday practices, the surrounding social environments and online brand community practices.

Ultimately, this paper underlines that the context of product-use tackles sustainability challenges of smartphone consumption *and* production. The limits of repair emerge in the provision of spare parts and presupposing that more smartphone brands will promote repair and maintenance of their devices in the future, more independent suppliers are likely to set up business in the trade of spare parts, bypassing the impasse. Here, initiatives that invest in ethical branding to evoke affects have advantages over the grassroots initiatives who do not. The affects tie users to products and at times manage to install significant social ties among them. Smartphone platforms can provide consumers with the opportunity to break out of routines that hamper sustainability-oriented efforts, for instance, through an easily dismountable phone. Another option might be the disavowal of mainstream product ecosystems through the provision of free software solutions, which might form the basis for specialty brands that compete for broader social-environmental welfare. Repair practices are just one example of how overall e-waste generated through smartphones' short life cycles might be reduced. A break from problematic consumption activities draws closer, when sustainable smartphone practices use branding as an organizational vehicle.

In the digital age, consumers are increasingly connected, possess more information and increasingly demand their consumer electronics goods to be more transparent. Initiatives that draw attention to the origin of their goods and the labour conditions in the production process have begun to garner appreciation for the intersectional challenge of sustainability. While consumers continue to experiment with identity creation projects, identifying and developing opportunities for more sustainable product offerings through a culturally sensitive approach is of increasing value in marketing practice (Thompson, 1997). Companies adopting a service-dominant logic will increasingly work with consumers to co-create products and services to promote an ethical surplus in brands.

Brands are both meaningful objects and costly symbols (Yuran, 2016). Despite the monopolizing tendencies of all branding, and despite its baggage of capitalistic spiritualism, ethical branding uses symbols that interconnect all stakeholders of the organization. Primary value judgements of ethical branding,

which form a visible part of marketing practices, display substantial progress in an industry dominated by the rule of shareholder value. A redefined socio-political imaginary thus entails an ethical surplus through which repair and maintenance practices may become more common. The affectively significant relations that connect stakeholders hold the potential to transform a throwaway society and curb the number of smartphones that end up in landfill.

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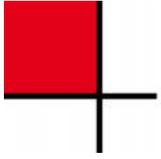
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Against innovation: Compromised institutional agency and acts of custodianship

Marcell Mars and Tomislav Medak

abstract

In this essay we reflect on the historic crisis of the university and the public library as two modern institutions tasked with providing universal access to knowledge and education. This crisis, precipitated by pushes to marketization, technological innovation and financialization in universities and libraries, has prompted the emergence of shadow libraries as collective disobedient practices of maintenance and custodianship. In their illegal acts of reversing property into commons, commodification into care, we detect a radical gesture comparable to that of the historical avant-garde. To better understand how the university and the public library ended up in this crisis, we re-trace their development starting with the capitalist modernization around the turn of the 20th century, a period of accelerated technological innovation that also birthed historical avant-garde. Drawing on Perry Anderson's 'Modernity and Revolution', we interpret that uniquely creative period as a period of ambivalence toward an 'unpredictable political future' that was open to diverging routes of social development. We situate the later re-emergence of avant-garde practices in the 1960s as an attempt to subvert the separations that a mature capitalism imposes on social reality. In the present, we claim, the radicality equivalent to the avant-garde is to divest from the disruptive dynamic of innovation and focus on the repair, maintenance and care of the broken social world left in techno-capitalism's wake. Comparably, the university and the public library should be able to claim the radical those gesture of slowdown and custodianship too, against the imperative of innovation imposed on them by policymakers and managers.

Custodians.online, the first letter

On 30 November, 2015 a number of us shadow librarians who advocate, build and maintain 'shadow libraries', i.e. online infrastructures allowing users to digitise, share and debate digital texts and collections, published a letter

(Custodians.online, 2015) in support of two of the largest user-created repositories of pirated textbooks and articles on the Internet – Library Genesis and Science Hub. Library Genesis and Science Hub’s web domain names were taken down after a New York court issued an injunction following a copyright infringement suit filed by the largest commercial academic publisher in the world – Reed Elsevier. It is a familiar trajectory that a shared digital resource, once it grows in relevance and size, gets taken down after a court decision. Shadow libraries are no exception.

The world of higher education and science is structured by uneven development. The world’s top-ranked universities are concentrated in a dozen rich countries (Times Higher Education, 2017), commanding most of the global investment into higher education and research. The oligopoly of commercial academic publishers is headquartered in no more than half of those. The excessive rise of subscription fees has made it prohibitively expensive even for the richest university libraries of the Global North to provide access to all the journals they would need to (Sample, 2012), drawing protest from academics all over the world against the outrageously high price tag that Reed Elsevier puts on their work (‘The Cost of Knowledge’, 2012). Against this concentration of economic might and exclusivity to access, stands the fact that the rest of the world has little access to the top-ranked research universities (Baty, 2017; Henning, 2017) and that the poor universities are left with no option but to tacitly encourage their students to use shadow libraries (Liang, 2012). The editorial director of global rankings at the Times Higher Education Phil Baty minces no words when he bluntly states ‘that money talks in global higher education seems ... to be self-evident’ (Baty, 2017). Uneven economic development reinforces global uneven development in higher education and science – and vice versa. It is in the face of this combined economic and educational unevenness, that Library Genesis and Science Hub, two repositories for a de commodified access to otherwise paywalled resources, attain a particular import for students, academics and researchers worldwide. And it is in the face of combined economic and educational unevenness, that Library Genesis and Science Hub continue to brave the court decisions, continuously changing their domain names, securing ways of access beyond the World Wide Web and ensuring robust redundancy of the materials in their repositories.

The Custodians.online letter highlights two circumstances in this antagonism that cut to the core of the contradictions of reproduction within academia in the present. The first is the contrast between the extraction of extreme profits from academia through inflated subscription prices and the increasingly precarious conditions of studying, teaching and researching:

Consider Elsevier, the largest scholarly publisher, whose 37% profit margin stands in sharp contrast to the rising fees, expanding student loan debt and poverty-level wages for adjunct faculty. Elsevier owns some of the largest databases of academic material, which are licensed at prices so scandalously high that even Harvard, the richest university of the global north, has complained that it cannot afford them any longer. (Custodians.online, 2015: n.p.)

The enormous profits accruing to an oligopoly of academic publishers are a result of a business model premised on harvesting and enclosing the scholarly writing, peer reviewing and editing is done mostly for free by academics who are often-times struggling to make their ends meet in the higher education environment (Larivière et al., 2015).

The second circumstance is that shadow libraries invert the property relation of copyright that allows publishers to exclude all those students, teachers and researchers who don't have institutional access to scholarly writing and yet need that access for their education and research, their work and their livelihood in conditions of heightened precarity:

This is the other side of 37% profit margins: our knowledge commons grows in the fault lines of a broken system. We are all custodians of knowledge, custodians of the same infrastructures that we depend on for producing knowledge, custodians of our fertile but fragile commons. To be a custodian is, de facto, to download, to share, to read, to write, to review, to edit, to digitize, to archive, to maintain libraries, to make them accessible. It is to be of use to, not to make property of, our knowledge commons.) (Custodians.online, 2015)

Shadow libraries thus perform an inversion that replaces the ability of ownership to exclude, with the practice of custodianship (notion implying both the labor of preservation of cultural artifacts and the most menial and invisible labor of daily maintenance and cleaning of physical structures) that makes one useful to a resource held in common and the infrastructures that sustain it.

These two circumstances – antagonism between value extraction and precarity and antagonism between exclusive property and collective custodianship – signal a deeper-running crisis of two institutions of higher education and research that are caught in a joint predicament: the university and the library. This crisis is a reflection of the impossible challenges placed on them by the capitalist development, with its global division of labor and its looming threat of massive technological unemployment, and the response of national policymakers to those challenges: Are they able to create a labor force that will be able to position itself in the global labor market with ever fewer jobs to go around? Can they do it with less money? Can they shift the cost, risk and responsibility for social challenges to individual students and patrons, who are now facing the prospect of their investment in education never working out? Under these circumstances, the

imperative is that these institutions have to re-invent themselves, that they have to innovate in order to keep up with the disruptive course and accelerated the pace of change.

Custodianship and repair

In what follows we will argue against submitting to this imperative of innovation. Starting from the conditions from which shadow libraries emerge, as laid out in the first Custodians.online letter, we claim that the historical trajectory of the university and the library demands that they now embrace a position of disobedience. They need to go back to their universalizing mission of providing access to knowledge and education unconditionally to all members of society. That universalism is a powerful political gesture. An infinite demand (Critchley, 2007) whereby they seek to abolish exclusions and affirm the legacy of the radical equality they have built as part of the history of emancipatory struggles and advances since the revolutions of 1789 and 1848. At the core of this legacy is a promise that the capacity of members of society to collectively contest and claim rights so as to become free, equal and solidaric is underwritten by a capacity to have informed opinion, attain knowledge and produce a pedagogy of their own.

The library and the university stand in a historical trajectory of revolutions, a series of historical discontinuities. The French Revolution seized the holdings of the aristocracy and the Church, and brought a deluge of books to the *Bibliothèque Nationale* and the municipal libraries across France (Harris, 1999). The Chartism might have failed in its political campaign in 1848, but was successful in setting up the reading rooms and emancipating the working class education from moral inculcation imposed on them by the ruling classes (Johnson, 2014). The tension between continuity and discontinuity that comes with disruptive changes was written into their history long before the present imperative of innovation. And yet, if these institutions are social infrastructures that have ever since sustained the production of knowledge and pedagogy by re-producing the organizational and material conditions of their production, they warn us against taking that imperative of innovation at face value.

The entrepreneurial language of innovation is the vernacular of global technocapitalism in the present. Radical disruption is celebrated for its ability to depose old monopolies and birth new ones, to create new markets and its first movers to replace old ones (Bower and Christensen, 1996). It is a formalization reducing the complexity of the world to the capital's dynamic of creative destruction (Schumpeter, 2013), a variant of an old and still hegemonic productivism that understands social development as primarily a function of radical advances in

technological productivity (Mumford, 1967). According to this view, what counts is that spurts of technological innovation are driven by cycles of financial capital facing slumping profits in production (Perez, 2011).

However, once the effect of gains from new technologies starts to slump, once the technologist's dream of improving the world hits the hard place of venture capital monetization and capitalist competition, once the fog of hyped-up technological boom clears, that which is supposedly left behind comes the fore. There's then the sunken fixed capital that is no longer productive enough. There's then technical infrastructures and social institutions that were there before the innovation and still remain there once its effect tapers off, removed from view in the productivist mindset, and yet invisibly sustaining that activity of innovation and any other activity in the social world we inhabit (Hughes, 1993). What remains then is the maintenance of stagnant infrastructures, the work of repair to broken structures and of care for resources that we collectively depend on.

As a number of scholars who have turned their attention to the matters of repair, maintenance and care suggest, it is the sedimented material infrastructures of the everyday and their breakdown that in fact condition and drive much of the innovation process (Graham and Thrift, 2007; Jackson, 2014). As the renowned historian of technology Thomas Hughes suggested (Hughes, 1993), technological changes largely address the critical problems of existing technologies. Earlier still, in the 1980s, David Noble convincingly argued that the development of forces of production is a function of the class conflict (Noble, 2011). This turns the temporal logic of innovation on its head. Not the creative destruction of a techno-optimist kind, but the malfunctioning of technological infrastructures and the antagonisms of social structures are the elementary pattern of learning and change in our increasingly technological world. As Stephen Graham and Nigel Thrift argued (2007), once the smooth running production, consumption and communication patterns in the contemporary capitalist technosphere start to collapse, the collective coping strategies have to rise to the challenge. Industrial disasters, breakdowns of infrastructures and natural catastrophes have taught us that much.

In an age where a global division of labor is producing a growing precarity for ever larger segments of the world's working population and the planetary systems are about to tip into non-linear changes, a truly radical gesture is that which takes as its focus the repair of the effects of productivism. Approaching the library and the university through the optic of social infrastructure allows us to glimpse a radicality that their supposed inertia, complexity and stability make

possible. This slowdown enables the processes of learning and the construction of collective responses to the double crisis of growth and the environment.

In a social world in which precarity is differently experienced between different groups, these institutions can accommodate that heterogeneity and diminish their insecurities, helping the society effectively support structural change. They are a commons in the non-substantive sense that Lauren Berlant (2016) proposes, a 'transitional form' that doesn't elide social antagonisms and that lets different social positions loosely converge, in order to become 'a powerful vehicle for troubling troubled times' (Berlant, 2016: 394-395).

The trajectory of radical gestures, discontinuities by re-invention, and creative destruction of the old have been historically a hallmark of the avant-gardes. In what follows, we will revisit the history of the avant-gardes, claiming that, throughout their periodic iterations, the avant-gardes returned and mutated always in response to the dominant processes and crises of the capitalist development of their time. While primarily an artistic and intellectual phenomenon, the avant-gardes emerged from both an adversarial and a co-constitutive relation to the institutions of higher education and knowledge production. By revisiting three epochal moments along the trajectory of the avant-gardes – 1917, 1967 and 2017 – we now wish to establish how the structural context for radical disruption and radical transformation were historically changing, bringing us to the present conjuncture where the library and the university can reclaim the legacy of the avant-gardes by seemingly doing its exact opposite: refusing innovation.

1917 – Industrial modernization, accelerated temporality and revolutionary subjectivity

In his text on 'Modernity and Revolution' Perry Anderson (1984) provides an unexpected, yet the cogent explanation of the immense explosion of artistic creativity in the short span of time between the late nineteenth and early twentieth century that is commonly periodized as modernism (or avant-garde, which he uses sparsely yet interchangeably). Rather than collapsing these wildly diverging movements and geographic variations of artistic practices into a monolithic formation, he defines modernism as a broad field of singular responses resulting from the larger socio-political conjuncture of industrial modernity. The very different and sometimes antithetical currents of symbolism, constructivism, futurism, expressionism or suprematism that emerge in modernism's fold were defined by three coordinates: 1) an opposition to the academicism in the art of the *ancien régime*, which modernist art tendencies both

draw from and position themselves against, 2) a transformative use of technologies and means of communication that were still in their promising infancy and not fully integrated into the exigencies of capitalist accumulation and 3) a fundamental ambivalence vis-à-vis the future social formation – capitalism or socialism, state or soviet – that the process of modernization would eventually lead to. As Anderson summarizes:

European modernism in the first years of this century thus flowered in the space between a still usable classical past, a still indeterminate technical present, and a still unpredictable political future. Or, put another way, it arose at the intersection between a semi-aristocratic ruling order, a semi-industrialized capitalist economy, and a semi-emergent, or -insurgent, labour movement. (Anderson, 1984: 150)

Thus these different modernisms emerged operating within the coordinates of their historical present, – committed to a substantive subversion of tradition or to an acceleration of social development. In his influential theory of the avant-garde, Peter Bürger (1984) roots its development in the critique of autonomy the art seemingly achieved with the rise of capitalist modernity between the eighteenth and late nineteenth century. The emergence of bourgeois society allowed artists to attain autonomy in a triple sense: art was no longer bounded to the representational hierarchies of the feudal system; it was now produced individually and by individual fiat of the artist; and it was produced for individual appreciation, universally, by all members of society. Starting from the ideal of aesthetic autonomy enshrined in the works of Kant and Schiller, art eventually severed its links from the boundedness of social reality and made this freedom into its subject matter. As the markets for literary and fine artworks were emerging, artists were gaining material independence from feudal patronage, the institutions of bourgeois art were being established, and '[a]estheticism had made the distance from the praxis of life the content of works' (Bürger, 1984: 49) While capitalism was becoming the dominant reality, the freedom of art was working to suppress the incursion of that reality in art. It was that distance, between art and life, that historical avant-gardes would undertake to eliminate when they took aim at bourgeois art. With the 'pathos of historical progressiveness on their side' (Bürger, 1984: 50), the early avant-gardes were thus out to relate and transform art and life in one go.

Early industrial capitalism unleashed an enormous social transformation through the formalization and rationalization of processes, the coordination and homogenization of everyday life, and the introduction of permanent innovation. Thus emerged modern bureaucracy, mass society and technological revolutions. Progress became the *telos* of social development. Productive forces and global expansion of capitalist relations made the humanity and the world into a new

horizon of both charitable and profitable endeavors, emancipatory and imperial. The world became a project (Krajewski, 2014).

The avant-gardes around the turn of the 20th century integrated and critically inflected these transformations. In the spirit of the October Revolution, its revolutionary subjectivity approached social reality as eminently transformable. And yet, a recurrent concern of artists was with the practical challenges and innovations of accelerated modernization: how to control, coordinate and socially integrate the immense expansionary forces of early industrialization. This was an invitation to insert one's own radical visions into life and create new forms of standardization and rationality that would bring society out of its pre-industrial backwardness. Central to the avant-garde was abolishing the old and creating the new, while overcoming the separation of art and social practice. Unleashing imaginary and constructive forces in a reality that has become rational, collective and universal: that was its utopian promise; that was its radical innovation. Yet, paradoxically, it is only once there is the new that the previously existing social world can be formalized and totalized as the old and the traditional. As Boris Groys (2014) insisted, the new can be only established once it stands in a relation to the archive and the museum. This tendency was probably nowhere more in evidence than, as Sven Spieker documents in his book 'The big archive – Art from bureaucracy' (2008), in the obsession of Soviet constructivists and suprematists with the archival ordering of the flood of information that the emergent bureaucratic administration and industrial management were creating on an unprecedented scale.

The libraries and the universities followed a similar path. As the world became a project, the aggregation and organization of all knowledge about the world became a new frontier. The pioneers of library science, Paul Otlet and Melvil Dewey, consummating the work of centuries of librarianship, assembled index card catalogs of everything and devised classificatory systems that were powerful formalizations of the increasingly complex world. These index card catalogs were a 'precursor of computing: universal paper machine', (Krajewski, 2011), pre-dating the 'universal Turing machine' and its hardware implementations by Konrad Zuse and John von Neumann by almost half a century. Knowledge thus became universal and universalizable: while libraries were transforming into universal information infrastructures, they were also transforming into places of popular reading culture and popular pedagogy. Libraries thus were gaining centrality in the dissemination of knowledge and culture, as the reading culture was becoming a massive and general phenomenon. Moreover, during the second part of the nineteenth and the first part of the twentieth century, the working class would struggle to transform not only libraries, but also universities, into public institutions providing free access to culture and really useful knowledge

necessary for the self-development and self-organization of the masses (Johnson, 2014).

While universities across the modernizing Europe, US and USSR would see their opening to the masses only in the coming decades later, they shyly started to welcome the working class and women. And yet, universities and schools were intense places of experimentation and advancement. The Moscow design school VKhUTEMAS, for instance, carried over the constructivists concerns into the practicalities of the everyday, constructing socialist objects for a new collective life, *novyi byt*, in the spirit of ‘Imagine no possessions’ (2005), as Christina Kiaer has punned in the title of her book. But more importantly, the activities of universities were driven by the promise that there are no limits to scientific discovery and that a Leibnitzian dream of universal formalization of language can be achieved through advances in mathematics and logic.

1967 – Mature capitalism, spectacle, resistant subjectivity

In this periodization, the central contention is that the radical gesture of destruction of the old and creation of the new that was characteristic of the avant-garde has mutated as the historic coordinates of its emergence have mutated too. Over the last century the avant-garde has divested from the radical gestures and has assumed a relation to the transformation of social reality that is much more complicated than its erstwhile cohort in disruptive change – technological innovation – continues to offer. If technological modernization and the avant-garde were traveling companions at the turn of the twentieth century, after the WWII they gradually parted their ways. While the avant-garde rather critically inflects what capitalist modernity is doing at a particular moment of its development, technological innovation remained in the same productivist pattern of disruption and expansion. That technological innovation would remain beholden to the cyclical nature of capitalist accumulation is, however, no mere ideological blind-spot. Machinery and technology, as Karl Marx insists in *The Grundrisse*, is after all ‘the most adequate form of capital’ (1857) and thus vital to its dynamic. Hence it comes as no surprise that the trajectory of the avant-garde is not only a continued substantive subversion of the ever new separations that capitalist system produces in the social reality, but also a growing critical distance to technology’s operation within its development.

Thus we skip forward half a century. The year is 1967. Industrial development is at its apex. The despotism of mass production and its attendant consumerist culture rules over the social landscape. After the WWII, the working class has achieved great advances in welfare. The ‘control crisis’ (Beniger, 1989), resulting

from an enormous expansion of production, distribution and communication in the 19th century, and necessitating the emergence of the capacity for coordination of complex processes in the form of modern bureaucracy and information technology, persists. As the post-WWII golden period of gains in productivity, prosperity and growth draws to a close, automation and computerization start to make their way from the war room to the shop floor. Growing labor power at home and decolonization abroad make the leading capitalist economies increasingly struggle to keep profits rates at levels of the previous two decades. Socialist economies struggle to overcome the initial disadvantages of belated modernization and instill the discipline over labor in order to compete in the dual world-system. It is still a couple of years before the first oil crisis will break out and the neo-liberal retrenchment begin.

The revolutionary subjectivity of 1917 is now replaced by resistant militancy. Facing the monotony of continuous-flow production and the prospect of bullshit jobs in service industries that start to expand through the surplus of labor time created by technological advances (Graeber, 2013), the workers perfect the ingenuity in shirking the intensity and dullness of work. The consumerist culture instills boredom (Vaneigem, 2012), the social division of labor produces gendered exploitation at home (James, 2012), the paternalistic welfare provision results in loss of autonomy (Oliver, 1990).

Sensibility is shaped by mass media whose form and content are structured by the necessity of creating aggregate demand for the ever greater mass of commodities and thus the commodity spectacle comes to mediate social relations. In 1967 Guy Debord's 'The society of the spectacle' is published. The book analyses the totalizing capture of Western capitalist society by commodity fetishism, which appears as objectively given. Commodities and their mediatized simulacra become the unifying medium of social integration that obscures separations within the society. So, as the crisis of 1970s approaches, the avant-garde makes its return. It operates now within the coordinates of the mature capitalist conjuncture. Thus re-semantization, *détournement* and manipulation become the representational equivalent of simulating busyness at work, playing the game of hide-and-seek with the capitalist spectacle and turning the spectacle onto itself. While the capitalist development avails itself of media and computers to transform the reality into the simulated and the virtual, the avant-garde's subversive twist becomes to take the simulated and the virtual as reality and re-appropriate them for playful transformations. Critical distance is no longer possible under the centripetal impact of images (Foster, 1996), there's no revolutionary outside from which to assail the system, just one to escape from.

Thus, the exodus and autonomy from the dominant trajectory of social development rather than the revolutionary transformation of the social totality become the prevailing mode of emancipatory agency. Autonomy through forms of communitarian experimentation attempts to overcome the separation of life and work, home and workplace, reproduction and production and their concealment in the spectacle by means of micro-political experiments.

The university – in the meanwhile transformed into an institution of mass education, accessible to all social strata – suddenly catapults itself center-stage, placing the entire post-WWII political edifice with its authoritarian, repressive and neo-imperial structure into question, as students make radical demands of solidarity and liberation. The waves of radical political movements in which students play a central role spread across the world: the US, Czechoslovakia, France, Western Germany, Yugoslavia, Pakistan, and so on. The institution becomes a site from which and against which mass civil rights, anti-imperial, anti-nuclear, environmental, feminist and various other new left movements emerge.

It is in the context of exodus and autonomy that new formalizations and paradigms of organizing knowledge emerge. Distributed, yet connected. Built from bottom up, yet powerful enough to map, reduce and abstract all prior formalizations. Take, for instance, Ted Nelson's Project Xanadu that introduced to the world the notion of hypertext and hyperlinking. Pre-dating the World Wide Web by a good 25 years, Xanadu implemented the idea that a body of written texts can be understood as a network of two-way references. With the advent of computer networks, whose early adopters were academic communities, that formalization materialized in real infrastructure, paving the way for a new instantiation of the idea that the entire world of knowledge can be aggregated, linked and made accessible to the entire world. As Fred Turner documents in 'From counterculture to cyberculture' (2010), the links between autonomy-seeking dropouts and early cyberculture in the US were intimate. Countercultural ideals of personal liberation at a distance from the society converged with the developments of personal computers and computer networks to pave the way for early Internet communities and Silicon Valley entrepreneurialism.

No less characteristic of the period were new formalizations and paradigms of technologically-mediated subjectivity. The tension between the virtual and the real, autonomy and simulation of autonomy, was not only present in the avant-garde's playful takes on mass media. By the end of the 1950s, the development of computer hardware reached a stage where it was running fast enough to cheat human perception in the same way moving images on film and television did. In

the computer world, that illusion was time-sharing. Before the illusion could work, the concept of an individual computer user had to be introduced (Hu, 2015). The mainframe computer systems such as IBM 360/370 were fast enough to run a software-simulated ('virtual') clone of the system for every user (Pugh et al., 1991). This allowed users to access the mainframe not sequentially one after the other, but at the same time – sharing the process-cycles among themselves. Every user was made to feel as if they were running their own separate ('real') computer. The computer experience thus became personal and subjectivities individuated. This interplay of simulation and reality became common in the late 1960s. Fifty years later this interplay would become essential for the massive deployment of cloud computing, where all computer users leave traces of their activity in the cloud, but only few can tell what is virtual (i.e. simulated) and what is real (i.e. 'bare machine').

The libraries followed the same double trajectory of universities. In the 1960s, the library field started to call into question the merit of objectivity and neutrality that librarianship embraced in the 1920s with its induction into the status of science. In the context of social upheavals of the 1960s and 1970s, librarians started to question 'The Myth of Library Neutrality' (Branum, 2008). With the transition to a knowledge economy and transformation of the information into a commodity, librarians could no longer ignore that the neutrality had the effect of perpetuating the implicit structural exclusions of class, gender and race and that they were the gatekeepers of epistemic and material privilege (Jansen, 1989; Iverson 1999). The egalitarian politics written into the de-commodification and enabling the social mission of public libraries started to trump neutrality. Thus libraries came to acknowledge their commitment to the marginalized, their pedagogies and their struggles.

At the same time, library science expanded and became enmeshed with information science. The capacity to aggregate, organize and classify huge bodies of information, to view it as an interlinked network of references indexed in a card catalog, sat well with the developments in the computer world. In return, the expansion of access to knowledge that the new computer networks promised fell in line with the promise of public libraries.

2017 – Crisis in the present, financialization, compromised subjectivity

We arrive in the present. The effects of neo-liberal restructuring, the global division of labor and supply-chain economy are petering out. Global capitalism struggles to maintain growth, while at the same time failing to slow down accelerating consumption of energy and matter. It thus arrives at a double crisis

– a crisis of growth and a crisis of planetary boundaries. Against the profit squeeze of 1970s, fixes were applied in the form of the relocation of production, the breaking-up of organized labor and the integration of free markets across the world. Yet those fixes have not stopped the long downturn of the capitalist system that pinnacled in the crisis of 2008 (Brenner, 2006). Currently capital prefers to sit on US\$ 13.4 trillion of negative yielding bonds rather than risk investing into production (Wigglesworth and Platt, 2016). Financialization is driving the efforts to quickly boost and capture value where long-term investment makes little sense. The finance capital privileges the short-term value maximization through economic rents over long-term investment into growth. Its logic dominates all aspects of the economy and the everyday (Brown, 2015). When it is betting on long-term changes in production, capital is rather picky and chooses to bet on technologies that are the harbingers of future automation. Those technologies might be the death knell of the social expectation of full employment, creating a reserve army of labor that will be pushed to various forms of casualized work, work on demand and workfare. The brave new world of the gig-economy awaits.

The accelerated transformation of the labor market has made adaptation through education and re-skilling difficult. Stable employment is mostly available in sectors where highly specialized technological skills are required. Yet those sectors need far less workers than the mass-manufacture required. Re-skilling is only made more difficult by the fact that austerity policies are reducing the universal provision of social support needed to allow workers to adapt to these changes: workfare, the housing crisis, cuts in education and arts have converged to make it so. The growing precarity of employment is doing away with the separation between working time and free time. The temporal decomposition is accompanied by the decomposition of workplace and living space. Fewer and fewer jobs have a defined time and place in which they are performed (Huws, 2016) and while these processes are general, the conditions of precarity diverge greatly from profession to profession, from individual to individual.

At the same time, we are living through record global warming, the seventh great extinction and the destabilization of Earth's biophysical systems. Globally, we're overshooting Earth's regenerative capacities by a factor of 1.6 (Latouche, 2009), some countries such as the US and the Gulf by a factor of 5 (Global Footprint Network, 2013). And the environmental inequalities within countries are greater than those between the countries (Piketty and Chancel, 2015). Unless by some wonder almost non-existent negative emissions technologies do materialize (Anderson and Peters, 2016), we are on a path of global destabilization of socio-environmental metabolisms that no rate of technological change can realistically mitigate (Loftus et al., 2015). Betting on settling on Mars is equally plausible.

So, if the avant-garde has at the beginning of the 20th century responded to the mutations of early modernization, in the 1960s to the integrated spectacle of the mature capitalism, where is the avant-garde in the present?

Before we try to address the question, we need to return to our two public institutions of mass education and research – the university and the library. Where is their equalizing capacity in a historical conjuncture marked by the rising levels of inequality? In the accelerating ‘race against the machine’ (Brynjolfsson and McAfee, 2012), with the advances in big data, AI and robotization threatening to obliterate almost half of the jobs in advanced economies (Frey and Osborne, 2013; McKinsey Global Institute, 2018), the university is no longer able to fulfill the promise that it can provide both the breadth and the specialization that are required to stave off the effect of a runaway technological unemployment. It is no surprise that it can’t, because this is ultimately a political question of changing the present direction of technological and social development, and not a question of institutional adaptation.

Yet while the university’s performance becomes increasingly scrutinized on the basis of what its work is contributing to the stalling economy and challenges of the labor market, on the inside it continues to be entrenched in defending hierarchies. The uncertainty created by assessment-tied funding puts academics on the defensive and wary of experimentation and resistance. Imperatives of obsessive administrative reporting, performance metrics and short-term competition for grant-based funding have, in Stefan Collini’s words, led to a ‘a cumulative reduction in the autonomy, status and influence of academics’, where ‘[s]ystemic underfunding plus competition and punitive performance-management is seen as lean efficiency and proper accountability’ (Collini, 2017: ch.2). Assessment-tied activities produce a false semblance of academic progress by creating impact indicators that are frequently incidental to the research, while at the same time demanding enormous amount of wasted effort that goes into unsuccessful application proposals (Collini, 2017). Rankings based on comparative performance metrics then allow university managers in the monetized higher education systems such as UK to pitch to prospective students how best to invest the debt they will incur in the future, in order to pay for the growing tuition fees and cost of study, making the prospect of higher education altogether less plausible for the majority in the long run (Bailey and Freedman, 2011).

Given that universities are not able to easily provide evidence that they are contributing to the stalling economy, they are asked by the funders to innovate instead. To paraphrase Marx, ‘innovate innovate that is their Moses and the

prophets'. Innovation, a popular catch-all word with the government and institutional administrators, gleaned from the entrepreneurial language of techno-capitalism, to denote interventions, measures and adaptations in the functioning of all kind of processes that promise to bring disruptive, almost punitive radical changes to the failures to respond to the disruptive challenges unleashed by that very same techno-capitalism.

For instance, higher education policy makers such as former UK universities minister David Willets, advocate that the universities themselves should use their competitive advantage, embrace the entrepreneurial opportunity in the global academic marketplace and transform themselves into startups. Universities have to become the 'equivalent of higher education Google or Amazon' (Gill, 2015). As Gary Hall reports in his 'Uberfication of the university' (2016), a survey UK vice-chancellors has detected a number of areas where universities under their command should become more disruptively innovative:

Among them are "uses of student data analytics for personalized services" (the number one innovation priority for 90 percent of vice-chancellors); "uses of technology to transform learning experiences" (massive open online courses [MOOCs]; mobile virtual learning environments [VLEs]; "anytime-anywhere learning" (leading to the demise of lectures and timetables); and "student-driven flexible study modes" ("multiple entry points" into programs, bringing about an end to the traditional academic year). (Hall, 2016: n.p.)

Universities in the UK are thus pushed to constantly create trendy programs, 'publish or perish', perform and assess, hire and fire, find new sources of funders, find students, find interest of parents, vie for public attention, produce evidence of immediate impact. All we can expect from such attempts to transform universities into Googles and Amazons, is that we will end up with an oligopoly of a few prestige brands franchised all around the world – if the strategy proves 'successful', or – if not – just with a world in which universities go on faking disruptive innovations while waiting for some miracle to happen and redeem them in the eyes of neoliberal policy makers.

These are all short-term strategies modeled on the quick extraction of value that Wendy Brown calls the 'financialization of everything' (Brown, 2015: 70). However, the best in the game of such quick rent-seeking are, as always, those universities that carry the most prestige, have the most assets and need to be least afraid for their future, whereas the rest are simply struggling in the prospect of reduced funding.

Those universities in 'peripheral' countries, which rarely show up anywhere near the top of the global rankings, are in a particularly disadvantaged situation. As Danijela Dolenc has calculated:

[T]he whole region [of Western Balkans] invests approximately EUR 495 million in research and development per year, which is equivalent of one (second-largest) US university. Current levels of investment cannot have a meaningful impact on the current model of economic development ... (Dolenec, 2016: 34)

So, these universities don't have much capacity to capture value in the global marketplace. In fact, their work in educating masses matters less to their economies, as these economies are largely based on selling cheap low-skilled labor. So, their public funders leave them in their underfunded torpor to improvise their way through education and research processes. It is these institutions that depend the most on the Library Genesis and Science Hubs of this world. If we look at the download data of Library Genesis, as has Balasz Bodó (2015), we can discern a clear pattern that the users in the rich economies use these shadow libraries to find publications that are not available in the digital form or are pay-walled, while the users in the developing economies use them to find publications they don't have access to in print to start with.

As for libraries, in the shift to the digital they were denied the right to provide access that has now radically expanded (Sullivan, 2012), so they are losing their central position in the dissemination and access to knowledge. The decades of retrenchment in social security, unemployment support, social housing, arts and education have made libraries, with their resources open to broad communities, into a stand-in for failing welfare institutions (Mattern, 2014). But with the onset of 2008 crisis, libraries have been subjected to brutal cuts, affecting their ability to stay open, service their communities and in particular the marginalized groups and children (Kean, 2017). Just as universities, libraries have thus seen their capacity to address structural exclusions of marginalized groups and provide support to those affected by precarity compromised.

Libraries thus find themselves struggling to provide legitimation for the support they receive. So they re-invent and re-brand themselves as 'third places' of socialization for the elderly and the youth (Engel-Johnson, 2017), spaces where the unemployed can find assistance with their job applications and the socially marginalized a public location with no economic pressures. All these functions, however, are not something that public libraries didn't do before, along with what was their primary function – providing universal access to all written knowledge, in which they are however nowadays – in the digital economy – severely limited.

All that innovation that universities and libraries are undertaking seems to be little innovation at all. It is rather a game of hide and seek, behind which these institutions are struggling to maintain their substantive mission and operation. So, what are we to make of this position of compromised institutional agency? In

a situation where progressive social agency no longer seems to be within the remit of these institutions? The fact is that with the growing crisis of precarity and social reproduction, where fewer and fewer have time from casualized work to study, convenience to do so at home and financial prospects to incur a debt by enrolling in a university, these institutions should, could and sometimes do provide sustaining social arrangements and resources – not only to academics, students and patrons, but also to a general public – that can reduce economic imperatives and diminish insecurities. While doing this they also create institutional preconditions that, unlike business-cycle driven institutions, can support the structural repair that the present double crisis demands.

If the historical avant-garde was birthing of the new, nowadays repeating its radicalism would seem to imply cutting through the fog of innovation. Its radicalism would be to inhabit the non-new. The non-new that persists and in the background sustains the broken social and technological world that the techno-capitalist innovation wants to disrupt and transcend. Bullshit jobs and simulating busyness at work are correlative of the fact that free time and the abundance of social wealth created by growing productivity have paradoxically resulted in underemployment and inequality. We're at a juncture: accelerated crisis of capitalism, accelerated climate change, accelerated erosion of political systems are trajectories that leave little space for repair. The full surrender of technological development into the hands of the market forces leaves even less.

The avant-garde radicalism nowadays is standing with the social institutions that permit, speaking with Lauren Berlant, the 'loose convergence' of social heterogeneity needed to construct 'transitional form[s]' (2016: 394). Unlike the solutionism of techno-communities (Morozov, 2013) that tend to reduce uncertainty of situations and conflict of values, social institutions permit negotiating conflict and complexity in the situations of crisis that Gary Ravetz calls postnormal – situations 'where facts are uncertain, values in dispute, stakes high and decisions urgent' (Ravetz, 2003: 75). On that view, libraries and universities as social infrastructures, provide a chance for retardation and slowdown, and a capacity for collective disobedience. Against the radicalizing exclusions of property and labor market, they can lower insecurities and disobediently demand universal access to knowledge and education, a mass intellectuality and autonomous critical pedagogy that increasingly seems a thing of the past. Against the imposition to translate quality into metrics and capture short-term values through assessment, they can resist the game of simulation. While the playful simulation of reality was a thing in 1967, in 2017 it is no longer. Libraries and universities can stop faking 'innovativity', 'efficiency' and 'utility'.

Custodians.online, the second letter

On 30 November, 2016 a second missive was published by Custodians.online (2016). On the twentieth anniversary of UbuWeb, ‘the single-most important archive of avant-garde and outsider art’ on the Internet, the drafters of the letter followed up on their initial call to acts of care for the infrastructure of our shared knowledge commons that the first letter ended with. The second letter was a gift card to Ubu, announcing that it had received two mirrors, i.e. exact copies of the Ubu website accessible from servers in two different locations – one in Iceland, supported by a cultural activist community, and another one in Switzerland, supported by a major art school – whose maintenance should ensure that Ubu remains accessible even if its primary server is taken down.

McKenzie Wark in their text on UbuWeb poignantly observes that shadow libraries are:

tactics for intervening in three kinds of practices, those of the art-world, of publishing and of scholarship. They respond to the current institutional, technical and political-economic constraints of all three. As it says in the *Communist Manifesto*, the forces for social change are those that ask the *property* question. While *détournement* was a sufficient answer to that question in the era of the culture industries, they try to formulate, in their modest way, a suitable tactic for answering the property question in the era of the vulture industries. (Wark, 2015: 116)

As we claimed, the avant-garde radicalism can be recuperated for the present through the gestures of disobedience, deceleration and demands for inclusiveness. Ubu already hints toward such recuperation on three coordinates: 1) practiced opposition to the regime of intellectual property, 2) transformative use of old technologies, and 3) a promise of universal access to knowledge and education, helping to foster mass intellectuality and critical pedagogy.

The first Custodians.online letter was drafted to voice the need for a collective disobedience. Standing up openly in public for the illegal acts of piracy, which are, however, made legitimate by the fact that students, academics and researchers across the world massively contribute and resort to pirate repositories of scholarly texts, holds the potential to overturn the noxious pattern of court cases that have consistently lead to such resources being shut down.

However, the acts of disobedience need not be made explicit in the language of radicalism. For a public institution, disobedience can also be doing what should not be done: long-term commitment to maintenance – for instance, of a mirror – while dealing institutionally with all the conflicts and challenges that doing this publicly entails.

The second Custodians.online letter was drafted to suggest that opportunity:

In a world of money-crazed start-ups and surveillance capitalism, copyright madness and abuse, Ubu represents an island of culture. It shows what a single person, with dedication and focus, can achieve. There are lessons to be drawn from this:

- 1) Keep it simple and avoid constant technology updates. Ubu is plain HTML, written in a text-editor.
- 2) Even a website should function offline. One should be able to take the hard disk and run. Avoid the cloud – computers of people you don't know and who don't care about you.
- 3) Don't ask for permission. You would have to wait forever, turning yourself into an accountant and a lawyer.
- 4) Don't promise anything. Do it the way you like it.
- 5) You don't need search engines. Rely on word-of-mouth and direct linking to slowly build your public. You don't need complicated protocols, digital currencies or other proxies. You need people who care.
- 6) Everything is temporary, even after 20 years. Servers crash, disks die, life changes and shit happens. Care and redundancy is the only path to longevity. Care and redundancy is the reason why we decided to run mirrors. We care and we want this resource to exist... should shit happen, this multiplicity of locations and institutions might come in handy. We will see. Find your Ubu. It's time to mirror each other in solidarity. (Custodians.online, 2016)

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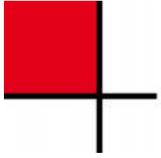
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Repairing the community: UT Califas and convivial tools of the commons*

Manuel Callahan

abstract

In this essay, I take up the tension between an always-present infrastructure of repair and maintenance and the opportunities for autonomy present when commodities break by proposing we engage in what Ivan Illich theorized as a convivial reconstruction. Rather than only thinking of repair and maintenance when ‘things’ break down in a commodity-intensive society, *pace* Illich, we need a Copernican revolution to rethink our investment in industrial mode of production and industrial tools altogether. Towards that end, Illich’s approach to conviviality and the possibilities of convivial tools not only provides a useful critique of the ‘industrial mode of production’ and the ‘industrial impotence’ that it produces but provides a blueprint for autonomy and a ‘new modern toolkit’ to re-weave the social fabric. As an example, I briefly examine a Zapatista civic pedagogy as a theoretical strategy towards autonomy and present Universidad de la Tierra Califas as another example of a convivial tool.

Introduction

What happens when a thing breaks or no longer functions? A growing DIY community is predisposed to fix it themselves with the gumption to overcome

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any malfunctions rather than remain powerless when confronted by a breakdown, pointing to the political possibilities of a renewed spirit of self-reliance animated by social, collective, processes of creative DIY problem solving. Indeed, as Valeria Graziano and Kim Trogal argue, ‘contemporary collective repair practices should be seen as a “lifestyle movement” rather than simply as a lifestyle choice, as their investments in an ethos of sharing, communing and mutuality reveals an effort to participate in the construction of political alternatives’ (Graziano and Trogal, 2017: 637). Unfortunately however, the majority of us in a commodity-intensive society are mostly unaware of an always-present repair and maintenance infrastructure. ‘Things only come into visible focus as things when they become inoperable’, according to Graham and Thrift, ‘they break or stutter and they then become the object of attention’ (Graham and Thrift, 2007: 2). Unconcerned about a thing until it no longer functions properly, we are likely to be even less worried about the amount of effort devoted to maintaining the developed world. Indeed, our manufactured indifference overlooks how pedagogical repair can be especially in situations of ‘crisis’, often where there are few resources (Graham and Thrift, 2007).

While some argue that the politics of repair and maintenance have been overlooked even though essential ‘to keep modern societies going’ (Graham and Thrift, 2007: 1), what has been even less interrogated is the power of the thing, broken or not, or better put, its reification whatever its condition. In other words, the challenges and opportunities of repair and maintenance are usually understood in relation to ‘things’ rarely calling into question the underlying social organization of commodity-intensive society, that is how commodities circulate and reproduce social relations within a capitalist system. When that thing breaks, our dependence on it, or ‘industrialized impotence’ (Illich, 2009a: 9), is immediately revealed. However, broken and in need of repair, the thing remains a commodity and as such it articulates a particular social relation in disuse, while in disrepair, or even when discarded. Fixing does not necessarily mend the socially mediated condition we find ourselves to begin with. The challenge of a repair movement then could be to interrogate our relation to the ‘industrial mode of production’ – that is our unquestioned dependence on the thing in the first place. ‘We must focus our attention on the industrially determined shape of our expectations’, warns Ivan Illich (Illich, 2009b: 20).

In addition to interrogating the demands and opportunities of repair and maintenance of the commodity society, we might rethink our investment in the industrial mode of production altogether – a rethinking where Illich called for

nothing less than a ‘Copernican revolution in our perception of values’¹ (Illich, 1978: 16). Illich’s call for a convivial reconstruction provides an innovative blueprint for a collective, embodied praxis to reclaim social processes as yet mediated by capital and the state. Shifting our focus to conviviality, my goal is to point to critical moments where ‘repair’ and ‘maintenance’ can be more about reweaving the social fabric.

In what follows, I proffer a provisional set of statements around convivial tools and by extension conviviality. I revisit Illich’s critique of the industrial mode of production and his proposal for convivial reconstruction to examine how a committed conviviality can lend itself to the re-construction of the social infrastructure of communities, providing something of a repair manual to get beyond the most destructive elements of capitalism.

My point of reference as to how the social fabric might be re-woven through convivial tools is the Ejército Zapatista Liberación Nacional (EZLN). The Zapatista provocation first promulgated in January 1994 invites a critical re-thinking of the politics of repair. In many ways, the Zapatista’s talent in the art of reading what has not yet been written (Subcomandante Marcos, 2005: 292) speaks to what Fred Moten asks of a critical approach to repair in general:

What if we could detach repair not only from restoration but also from the very idea of the original – not so that repair comes first but that it comes before. Then, making and repair are inseparable, devoted to one another, suspended between and beside themselves. (Moten, 2017: 168)

Situating Illich’s critique of industrial mode of production alongside more recent debates about the production of value, my goal is less to define conviviality and more to suggest critical elements that orient an approach to Zapatismo, specifically a Zapatista civic pedagogy, as an embodiment of a ‘new kind of modern tool kit’ for a new kind of politics of repair. As part of this effort, I briefly examine the example of Universidad de la Tierra Califas, a cautious effort at an urban Zapatismo attempting to root outside of Chiapas.

Towards a convivial reconstruction

Critical theorizations of capitalism have been gaining increased notoriety as capitalism seems to be confronted by what many hope will be its final ‘crisis’. Important analytical perspectives have placed the environment and the exhaustion of ‘cheap nature’ (Moore, 2015), for example, at the center of the

¹ For a discussion of the limits of Illich’s use of ‘industrial mode of production’, see Cleaver, 1987.

analysis. However, others have warned that capitalism is not coming to an end because it has reached its limit in nature, much less because of the successes of its historic enemies (Kurz, 2016). Emphasizing the impact of capitalism's internal contradictions, Robert Kurz invites us not to misplace hopes in the traditional 'revolutionary subject' but to consider the emerging subject of the alternative:

Without a doubt extraparliamentary, organized social struggles for the material and cultural necessities of life as resistance against the brutal lowering of the level of civilization is the only alternative to the left's political, parliamentary complicity in state-sponsored crisis administration. A newly constituted social counter-movement will be equally indispensable, initially in the form of the immanent attempt to work through contradictions, which will not delegate its needs and demands to the state but instead advance autonomous demands, even if those are made of the state. (Kurz, 2014: 343-344)

I read these 'extraparliamentary organized social struggles' able to pursue 'autonomous demands' as something akin to what has been theorized as 'societies in movement', struggles embodying the type of counter-power increasingly visible throughout Latin America and exemplified by the EZLN (Zibechi 2010, 2018; Gutiérrez, 2012; Sitrin, 2016). At 'the end of a period of the state-centered organization of social and economic life' (Postone, 2009: 31-32), societies in movement focus on everyday life and lifeways beyond capitalism.

Warning that 'one cannot escape from the structural constraints of the system by democratising access to its functions', Anselm Jappe proclaims that 'emancipation, therefore, can only be liberation from what inhibits autonomy at a deeper and more wide-ranging level' (Jappe, 2017: 9). Emancipation is inextricably linked to autonomy, continues Raquel Gutiérrez:

That is, to reflect on emancipation consists primarily of understanding how, at times, groups of men and women of different stripes come together intermittently, though assertively, to establish limits on what is to be done with and to them and to conjure other possibilities and new alternatives to what was previously known or envisioned. Emancipation, then, is about understanding this common capacity to take action and to decide for and by themselves. (Gutiérrez, 2012: 55)

And here, Illich's convivial reconstruction and his approach to conviviality might be of use. Although Kurz, Jappe, and Postone warn us about the necessity to avoid transhistorical categories and to prioritize commodity when critiquing late capitalism, we can turn to Illich for insights as to how a commodity-intensive society attacks the vernacular, that is, our collective persistence striving for autonomy. Illich's interrogation of the industrial mode of production makes visible how commodity disempowers individuals and communities, facilitating a

surrender to needs that can only be satiated by ever more goods and services dispensed by members of ‘disabling professions’ (Illich, 1978: 16). Illich's discomfort with ‘industrialized impotence’ (Illich, 1978: viii) and his invitation to re-valorize subsistence, all those practices not yet mediated by commodity, refocuses our attention on those activities that are ‘embedded in a circumscribed whole’ where the tasks and tools that are required for the community's regeneration are each vital (Illich, 1990: para. 7).

At the core of Illich's critique of the industrial mode of production is the need to recognize the ‘processes through which growing dependence on mass-produced goods and services gradually erodes the conditions necessary for a convivial life’ (Illich, 1978: vii). For Illich, the choice is between an over-wrought, over-produced, and over-consumed society, along with all the illusions or taken-for-granted certainties that drive it – especially the bureaucratic, industrial imperialism that maintains it – against an always present, emergent convivial community. ‘In other words’, Illich declares:

societies can either retain their market-intensive economies, changing only the design of the output, or they can reduce their dependence on commodities. The latter alternative entails the adventure of imagining and constructing new frameworks in which individuals and communities can develop a new kind of modern tool kit. This would be organized so as to permit people to shape and satisfy an expanding proportion of their needs directly and personally. (Illich, 1978: 14)

Illich approaches ‘tools’ broadly in order ‘to subsume into one category all rationally designed devices, be they artifacts or rules, codes or operators, and to distinguish all these planned and engineered instrumentalities from other things such as basic food or implements, which in a given culture are not deemed to be subject to rationalization’ (Illich, 2009b: 20-21). Consequently, tools can include ‘simple hardware’, ‘productive institutions’, and, most importantly, ‘productive systems for intangible commodities such as those which produce “education”, “health”, “knowledge”, or “decisions”.’ (Illich, 2009b: 20) The importance of tools for Illich cannot be overestimated. ‘Tools’, he insists, ‘are intrinsic to social relationships’ (Illich, 2009b: 22). They are so fundamental to society that ‘an individual relates himself in action to his society through the use of tools *that he actively masters, or by which he is passively acted upon*’ (Illich, 2009b: 22, italics mine). Thus, we might say a tool either reinforces or changes a social relation. Tools ‘foster conviviality’ when they are accessible and easily used by ‘anybody, as often or as seldom as desired, for a purpose chosen by the user’ (Illich, 2009b: 22). These tools are ones that resist homogenization and interchangeability common to, as Jappe warns, the totalitarianization of commodity society (Jappe, 2017: 99).

Concerned about the ascendance of industrial tools over convivial ones, Illich's critique of the industrial mode of production entails less worry about repair and maintenance and more of an emphasis on the necessary distinction between corrosive or productive tools, underscoring the deleterious impact most industrial tools can have when they are no longer in our service. Illich's warning against the industrial mode of production promotes multiple oppositions and by extension strategies to confront those systems that breed dependence on industrial staples, either tangible goods or intangible services, that 'paralyzes the autonomous creation of use-values' (Illich, 1978: 4). Illich's proposal for convivial reconstruction begins with an examination to determine where tools have begun to exceed their purpose or design, no longer serving people embedded in a web of relations, limiting another's desires, and undermining his/her/their relationship to the local environment and the community as a whole. In this approach, the tool, not the ideology, becomes paramount and its utility as a convivial device is determined in shared struggle.

Unfortunately, Illich's utility for escaping the 'negative internalities of modernity' has seldom been fully appreciated, and is of little use if not properly situated alongside his opposition to the war against subsistence. Corrosive industrial tools actively limit access to ways of being in the world that result from relations between people and their claims to placed knowledges, a 'vernacular mode of being' (Illich, 1981: 58). As people become increasingly vulnerable to toxic tools and oppressive systems they grow more distant from the situated knowledges that sustained them in and through community, 'a locally understood interdependence of local people, local culture, local economy, and local nature' (Berry, 1993: 119).

Zapatista accumulation of struggle

The EZLN and the rebel Zapatista communities of Chiapas have co-generated something of a 'new kind of modern toolkit' as suggested by Illich — one that disrupts the commodity-intensive society and repairs the damage done by its most ruinous elements. The Zapatistas have been deliberate about the tools they have forged over the course of the phases of their struggle (fire, word, and autonomy). They have developed tools required, for example, for forming a successful army, while additional tools made it possible for the military not to play a detrimental role in the community's unfolding exercise of autonomy. There have been several unique tools invented by the Zapatistas designed for shared decision-making, making it possible for all community members to learn the arts of governing. The most notable in this regard are the Rebel Autonomous Zapatista Municipalities (MAREZ), *juntas de buen gobierno* (JBG), and *caracoles*.

Working in conjunction with the *juntas de buen gobierno* (JBG), the *caracoles* are designed as centers to facilitate a number of different encounters with international and national activist networks; they are an essential strategy to manage the contradictions of the solidarity community. The *caracoles* and the JBG re-establish a system of *cargos*, or collectively determined obligations, that make it possible for community members to rotate into positions of responsibility in order to perform the necessary tasks of collectively managing the community's interests internally and externally, facilitating the successful maintenance of the community and ensuring that everyone learns the arts of governance (Gonzalez Casanova, 2005).

Another example is the convening and facilitating of the Critical Thought in the Face of the Capitalist Hydra (EZLN, 2016), the Zapatistas declared the need for new conceptual tools to confront capitalism's violent decomposition. This call emerged out of the Zapatista's longstanding success in generating a number of analytical devices for reading the conjuncture, the decomposition of the party-state, etc. Moreover, the Zapatista's holding of space recently advanced through the *conversatorio* and the *seminario/ seed bed*, continues a form of the on-going convivial research and insurgent learning that is at the center of a politics of encounter. These devices help orient the community, especially making it possible for women, youth, and other marginalized groups to be increasingly at the center of horizontal democratic spaces (Rosset, et. al., 2005: 37). Similarly, the seven 'principles of *mandar obedeciendo*', or 'governing while obeying', have proven to be extremely useful as part of a complex set of tools for autonomy.² A good part of the effort has also been about reclaiming and making available more traditional convivial technologies such as the *sistema de tequio* (a community-defined work project), *sistema de cargo* (a community-determined, entrusted obligation for community renewal), and *asamblea* (Martínez Luna, 2010).

More recently, the collaboration between the Zapatistas and the National Indigenous Congress (CNI) produced a unique and very effective tool in the Indigenous Governing Congress (CIG), resulting in Indigenous communities across the country convened in permanent assembly and mobilized to disrupt the national electoral spectacle by putting forward María de Jesús Patricio (Marichuy) as the CIG spokesperson. More importantly, the gathering, or *conversatorio*, convened by the CNI and the Zapatistas, *Miradas, Escuchas y Palabras: ¿Prohibido Pensar?* (April 15-25, 2018) made it possible to collectively examine

2 The seven principles of *mandar obedeciendo* are: 1. to lead by obeying (*obedecer y no mandar*); 2. to represent; not replace (*representar y no suplantar*); 3. To work from below and not seek to rise (*bajar y no subir*); 4. to serve; not self-serve (*servir y no servirse*); 5. to convince; not conquer (*convencer y no vencer*); 6. to construct; not destroy (*construir y no destruir*); 7. to propose; not impose (*proponer y no imponer*).

the signature campaign to put Marichuy on the ballot and co-generate a collective ethnography narrating the multiple, intersecting violences impacting Mexico generally and Mexico's Indigenous communities in particular.

At the center of this new political energy, I argue, is a knowledge production that in the Zapatista hands operates as a civic pedagogy: a praxis that recognizes the critical importance of research and learning for horizontal, participatory democratic governance and organization. The future in the present is animated by learning and inquiry where participants can discover in a shared space how to re-learn the habits of assembly, reclaim processes of collective decision-making, and collaborate to find new ways to regenerate community through dignity, obligation, reciprocity, stewardship, and care. The Zapatista civic pedagogy explored here however is not a specific theory articulated or promulgated by the EZLN. Moreover, the Zapatistas have rejected the formal, dominant educational system and reclaimed autonomous processes of learning. As Raquel Gutiérrez proposes, the gesture here is to engage in the production of a theoretical strategy (Gutiérrez, 2012: 52). It is not an attempt to name an objective reality that can be put in service of a specific strategic purpose or organized effort. Rather, Zapatista civic pedagogy as a theoretical strategy gestures towards a 'practical comprehension' of what we might collectively agree on that is both a challenge and an opportunity of, in this case, a Zapatismo for emergent rebel communities to advance a kind of struggle that is not about 'taking power', but more of a commitment to explore a 'difficult ambivalent, and often contradictory itinerary or path' (Gutiérrez, 2012: 53). In this instance, the path that is co-constructed is animated by the Zapatistas' provocation to learn with others a new way of doing politics (El Kilombo, 2007).

Zapatismo and the war against subsistence

Elsewhere I have argued that the Zapatista politics of encounter has succeeded as a consistent strategy of facilitating broad, inclusive political spaces for dignified dialogue without directing the outcomes (Callahan, 2005). These interconnected spaces have been animated by what I have been calling an on-going convivial research and insurgent learning: a set of commitments that point to those moments where learning and research are recognized as integral to the radically democratic alternative we collectively construct in the moment. On a practical level, convivial research and insurgent learning are understood as emerging from or part of everyday knowing and doing. However, they can also be part of more elaborate processes of community regeneration: those moments where learning and research are deliberately part of political processes that seek to insure the consistent, informed participation of all members of an intentional community.

A primary example of this would be the network of assemblies that constitute a *caracol* and the JBG (Mora, 2017).

The encounter as a convivial tool, as well as the other convivial tools associated with it, take on a greater significance if we take up the Zapatista theorization of the 4th WW as an approach to analyze the continuation of an ongoing war against subsistence (Illich, 1981). The Zapatista praxis deliberately engages the 4th WW on the side of reclaiming subsistence and the vernacular, clearly embodying a deliberate effort to place themselves outside the disciplinary forces of a commodity-intensive society. The Indigenous communities that make up Zapatista communities throughout the autonomous zones continue to draw on the use-values that they defend against a capitalist social relation. In other words, while we want to observe how ‘workers’ refuse their imbrication into circuits of exchange value, we must also note how their refusal entails a reclaiming of practices and knowledges essential to use-values, that is, the vernacular.

As the war against subsistence rages, the political space that the Zapatistas hold against this war for a diversity of rebels, is a space, as Fred Moten and Stefano Harney argued, of displacement (Moten and Harney, 2013). Drawing on Moten and Harney, we might say it is a space of ‘bad debt’ – the space of sharing against the violence of commodity and the spectacle (Moten and Harney, 2013: 61). The space of encounter is a space of a radical alternative subjectivation, one generated through the reliance on vernacular knowledges, especially those around subsistence, but also the knowledges expressed in cultural practices of a fugitive sociality, spaces of displacement animated by a hapticality – that is a way of knowing that embraces knowing the other (Moten and Harney, 2013: 97-99).

Raúl Zibechi reminds us of the political potency of the lessons learned from these ‘zones of non being’, the zones where the disciplinary practices of consumer capitalism and all the mechanisms of control around debt, consumption, and media do not take root. ‘In these zones’, explains Zibechi, ‘social relationships are very different, heterogeneous, regarding the hegemonic’. Zibechi notes three major differences that are worth quoting at length:

The first difference is the hegemony of use value versus the dominance of exchange value in the zone of being... The second is the power found in community relations and reproduction of life versus individualism and production, that characterize the area of being [...] The third difference relates to the existence of multiple forms of labor: wages, reciprocity, slavery, servitude and familiar commercial ventures [...] The organized below is a world of strong attachments and trust that narrows the possibility of control by means of debt, for example, or marketing, where solidarities neutralize mechanisms of control. (Zibechi, 2016: par. 4-8)

Thus, the space of Zapatismo articulated through a series of encounters as theorized here is both the site of the dissolution of one relation, that is the relation produced through racial patriarchal capitalism and intertwined around property, value, commodity, labor, race, and patriarchy and the emergence of another, counter-relation articulated through the convivial, a relation maintained with a new modern tool kit oriented around holding space for learning together. Zapatista spaces of encounter engage those subjects that Brenna Bhandar explains as refusing the possessive individualism and possessive nationalism (Bhandar, 2018). Thus, Zapatista civic pedagogy offers potential alternatives to the liberal project and by extension the Western patriarchal consuming subject (Callahan, 2012).

UT Califas as convivial tool

In the context of this 4th WW, I have looked to the Zapatistas and their use of convivial tools, especially their forging of what I have taken to call a Zapatista civic pedagogy, a theoretical strategy I argue that brings into focus the Zapatistas' strategic use of convivial research and insurgent learning as essential devices for a radical democratic praxis. There are benefits in identifying some elements of Zapatismo as 'technologies' that can be claimed, shared, and embodied. In this last section, I want to examine more closely Uni-Tierra Califas, as an autonomous learning space in the San Francisco Bay Area committed to 'technology' transfer as part of an attempt to learn a new way of doing politics³ (Callahan, 2016).

As an alternative to a formal institutional space, UT Califas claims a social architecture that operates only when people gather; it only exists when convened. Thus, UT Califas should be understood much in the same way as the Aymara deploy their notion of a 'barracks' in their struggle for local autonomy which, according to Zibeche, 'are social relationships: organizational forms based on collective decision-making and the obligatory rotation of duty, but in a militarized state or, in other words, adapted to cope with violent assault' (Zibeche, 2010: 53-55). Each space UT Califas convenes is designed to assist in making autonomous praxis more legible.

3 UT Califas attempts to extend the network of autonomous learning spaces anchored by the two most prominent Uni-Tierra spaces, namely Universidad de la Tierra Oaxaca and Universidad de la Tierra Chiapas. Both Universidad de la Tierra 'campuses' in Oaxaca [<http://unitierraoax.org/>] and Chiapas [<http://seminarioscideci.org/>] have been at the center of many prominent political mobilizations that have had a national impact in Mexico and internationally over the last twenty-one years.

As a convivial tool, Uni-Tierra Califas contests industrial tools, such as the formal, institutional system of education, while facilitating a radically different social arrangement, one that guarantees for each member ample and free access to the larger space/project and the enrichment of both the project and the participant through his/her/their participation.

It is in this context that UT Califas subverts transmission pedagogies typical of traditional teaching and research institutions by refusing to organize organizers, teach teachers, or train trainers who claim a singular authority to bestow knowledge. A space that treats knowledge practices as essential to the construction of alternative social relations must necessarily avoid the 'explaining expert' and abandon any vestiges of 'teaching' where the presumption is that one person or group possesses expertise that others do not have and must acquire. We might also add, following Colectivo Situaciones, we want to bracket the authority often claimed by the 'sad militant', 'university researcher', and 'humanitarian activist' who often occupy activist spaces with the ambition of directing them (Colectivo Situaciones, 2005: 605).

Imagined as a node for the transfer of technology, UT Califas encourages the circulation of convivial technologies, as well as formal, dominant technologies that might still be used strategically in relation to the situated knowledges and rooted wisdoms of local struggles, and these excavated through formal and informal investigations. Here, 'technologies' suggests a difference between what is commonly associated with industrial and digital technologies and those convivial technologies that are generated through purposeful cooperation. The commitment to share technologies across struggle is symbolized by Uni-Tierra Califas' Center for Appropriated Technology, Language and Literacy Institute, occasional Theses Clinics, and any number of *talleres*, or workshops. Rather than only engage other struggles in an already determined solidarity mode, we ask what kind of convivial tools (e.g. *cargo*, *asamblea*, *tequio*, *faena*) can be made available and what do we need to do to organize ourselves to learn how these tools work, discover how they might be applied in different contexts, and assess whether or not we have been successful in our appropriation of them.

Generally speaking, UT Califas has been convened in a geography that has lost the habits of assembly, the obligations of *cargo*, and the determined efforts of *tequio*; it is for the most part social spaces overdetermined by what Illich named as the 'modernization of poverty', that is 'the community' no longer claims the

tools to convene and manage its maintenance.⁴ It is a socially mediated community overdetermined by commodity and the professionalization that insures a dependence on commodity-driven needs. In response, UT Califas activates a network pedagogy through a web of temporary autonomous zones of knowledge production (TAZKP), a constellation of spaces that make it possible to reclaim and re-construct a social infrastructure of community as it explores how to disrupt the ‘modernization of poverty’, refuse the ‘technological imperative’, and abandon the professionalization that unravels the social fabric and dismantles the social infrastructure of community (Illich, 1978; Illich, 2006). Reclaimed cultural practices/spaces including *tertulia*, *mitote* and *tianguis* as well as other spaces that are constructed as part of a more deliberate intervention, including *ateneos* and *coyunturas*, comprise UT Califas’ learning infrastructure. Each reclaimed cultural practice is subject to shifting meanings given class, gender, and race tensions peculiar to specific gatherings as well as the contexts in which each is convened. In keeping with a convivial itinerary, each cultural practice reclaims and politicizes the code that narrates it by re-deploying it for locally rooted political uses.

tertulia

A *tertulia* generally refers to neighbors who gather at an accessible public space, such as a pub or coffee house, to share news and information that affect the community. The most public and least formal of UT Califas’ concatenated spaces, the *tertulia* politicizes regular local gatherings often common to *barrios* as sites to generate and archive local histories of struggle. A consistent and accessible *tertulia* is a site of knowledge production where community members can exchange news and information and as a consequence develop projects, coordinate activities, facilitate networks, share resources, and promote and share research.

mitote

Often criminalized in the popular consciousness, the *mitote* works as a reclaimed public space of celebration convened to generate poetic and other situated knowledges that privilege arts, dance, and embodied research. *Mitote* is a code originally used by the Spanish to criminalize Indigenous resistance and what were perceived to be sinister, clandestine gatherings noted for debauchery and all manner of excess assumed to be the result of the liberal use of intoxicants. The celebration and declarations, to the Spanish, must have confirmed their worst

4 This claim would not be true of the transterritorial communities of say, for example, Oaxacalifornia. A good number of communities in Oaxaca and Chiapas extend beyond nation-state boundaries through the exercise of *cargo* and *tequio*, for example.

fears of an Indigenous disposition to subversion and reinforcing their constant worry of revolt. In this instance, the term has been re-appropriated to refer to a 'clandestine' gathering marked by ritualized celebration and sharing of knowledge between generations for community renewal.

coyuntura

The *coyuntura* draws from popular education practices inspired by the work of Paulo Friere and Ivan Illich, encouraging participants to generate language and new tools for struggle towards a shared analysis through a series of activities and reflection and action spaces. We approach *coyuntura* or *conjunctural analysis* as a category of analysis, a space for epistemological rupture, and as a space to actively produce new knowledges. *Coyuntura* links research, analysis, reflection, and action by encouraging participants to name, define, narrate, and act on the struggle that impacts them in the current conjuncture, or what Gustavo Castro calls the 'amplified present' (Castro and Lomeli, 1995, v. 5: 26-27) As an approach to analysis, *coyuntura* draws heavily on the major theoretical advances of various 'Marxisms' and 'post-Marxisms' to illuminate the intersections between structural and cultural forces operating in economic, political, social, and cultural contexts over time. *Coyuntura* can also refer to a gathering convened for the purpose of producing new knowledges by first generating an epistemological rupture—exposing the views, attitudes, values, and concepts that are taken for granted and that can prevent a group from listening to one another, arriving at a shared analysis, and constructing new tools to solve local, immediate problems (Castro Soto and Valencia Lomeli, 1995).

tianguis

In our culture, in the political culture that we need today the *tequio* (community work) and the *tianguis* (public markets), which were the hitching posts, must play an important role, because they are traditions, the political cultural traditions of resistance belonging to our continent, which have something to say in this history. (Zibechi, 2015)

A well-known cultural practice throughout Mexico, a *tianguis* refers to a small open-air market, or bazaar, where local community vendors and folks from the neighborhood gather to trade or sell goods and services. In the late Fall of 2014 UT Califas convened space where participants from across local groups imagined a Community Action Tianguis, gathering folks from and connected to San José's Mayfair community to share tools, strategies, and resources. In addition to specific booths, the *tianguis* provided space for organizations and projects to present their work and community members to share information about issues impacting the community with the goal of building toward a community-wide assembly. In particular, community members were increasingly confronted by

the privatization of public spaces and reduction of services, making it difficult for local community members to access local resources. For instance, several families who had organized a community soccer league were prohibited from using local fields due to excessive fees. As a gesture of occupying, local soccer teams competed on the adjacent soccer pitch throughout the *tianguis*.

ateneo

We deploy the *ateneo* as an open, diffuse space that facilitates insurgent learning and convivial research. The deployment of an *ateneo* as a strategy of oppositional learning and research draws historically on the Spanish anarchist community of the late 19th century; the resurgence with the alter-globalization struggle of ‘worker’ organized research projects and learning spaces; as well as horizontal autonomous practices associated with the social centers and the *okupas* active across Spain since the 1980s.

The *ateneos* of UT Califas meet monthly or bi-monthly in an established location for an established three-hour session. Prior to convening, an announcement is sent out situating current struggles and resistances. The *ateneo* advances a facilitation strategy rooted in agreements. Thus, each *ateneo* begins with a review of agreements often followed by a brief retelling of the history of the *ateneo*. Participants agree to share questions insuring the learning as horizontal and everyone is able to shape the conversation. These questions then serve as a point of reference and resonance against which the conversation unfolds beyond the actual gathering. Following the *ateneo*, a summary is written, circulated to all participants, and subsequently archived on the UT Califas website. Generally, a core group of four to five folks from various struggles and communities establishes the *ateneo* working in conjunction with UT Califas, and from there, invited community members from grassroots, academic, nonprofit, and other communities also join, together with comrades from other places. The *ateneos* always convene in public spaces, such as *cantinas*; according to Cecena:

In the cantina, people construct political programs and share resistance strategies...the people who come together in the social universe of the cantina also share their political sensibilities through talk. In the oral sphere of communication there is a constant interweaving of worldviews, and this exchange encourages intersubjective processes out of which emerges a collective subject that is strengthened in the anonymity of mediocre individuals. (Cecena, 2012: 116-117)

UT Califas has convened four *ateneos* since 2011. The Democracy Ateneo based in San José (2011-2018) interrogated the vexed and incomplete project of democratic promise, especially noting the failure of mainstream liberal institutions, as well as projects that have undermined such democratic promise historically and politically, including, for example, slavery, democratic despotism,

development, neoliberalism, militarized policing, low intensity war, and the (global) prison-industrial complex. Emerging not long after the Democracy Ateneo began, the Insurgent Knowledges Ateneo convened in San Francisco (2013-2014) with the specific focus of oppositional knowledges from different contexts. Alongside these two *ateneos*, the increased visibility in police violence prompted a third *ateneo*, namely the Social Factory *ateneo*, convened in Oakland (2014-2015) to interrogate state authored counterinsurgency operating through multiple intersecting agencies and strategies of violence, especially targeting women and families. Starting from our oppositions we recognize the consistent struggle over care. This prompted the Fierce Care Ateneo in Oakland (2016 – 2017). For us the notion of ‘fierce care’ is a concept that evokes the number of strategies that emerge in and through the social factory in opposition to the multiple, intersecting violences of capital (Callahan and Paradise, 2017).

tequio

The recent rise in police violence has motivated family members and survivors to mobilize the larger community to seek justice and document the ongoing resistance to police excess by a growing network of projects (Paradise, 2017). Working in conjunction with the *ateneos* and in response to local struggles on the ground, UT Califas convenes a number of spaces to advance *tequios de investigación*. Inspired by the community defense project of the Fray Bartolomé de Las Casas Human Rights Center of Chiapas, these have included *talleres*, or workshops, focused on community mapping and community timeline action projects, organized with local families from across the Bay Area and beyond who have lost loved ones to state violence. These can occur in an ‘appropriated space’ of a law school, a university classroom, a community center, an assisted living facility common room, or a local park, and makes use of a variety of mapping tools. The spaces of the *talleres* unfold adjacent to and interwoven with justice struggles challenging police violence in Stockton, San Francisco, San José, Berkeley, Oakland, and beyond. These recent *tequios* advance as part of a larger diffuse strategy of people’s investigations with the focus of community safety (Paradise, 2017). The *tequios* link open strategy meetings, rallies, workshops, community speak-outs, neighborhood assemblies, press conferences, banner and art making parties, direct action spaces such as *escraches*, municipal meeting ‘occupations’, as well as vigils, skill shares, *ateneos*, *tertulias* and various other spaces where the community gathers to organize collectives committed to political action. As interwoven TAZKP, these spaces create possibilities for community members situated across a broad spectrum of ‘fierce care’ as well as to encounter each other as political forces (Callahan and Paradise, 2017).

Taken together the spaces UT Califas convenes attempt to reclaim commons, regenerate community, and facilitate intercultural and intergenerational dialogues (Esteva and Prakash, 1998). Combined, they construct a complex and distributed ‘grassroots think tank’. They are critical sites of community repair, in the sense that they exist draw our collective attention to our position in commodity-intensive society, and the obstacle that the industrial mode of production poses for our autonomy. In this sense, the repair occurs through the collective effort of reweaving the ongoing work of social production and the effort to suture vernacular moments into a stronger web. The community architecture of interconnected TAZKP spaces is an experiment that explores efforts at de-professionalization and de-commodification along with attempts at more long-term practices of community regeneration. Ultimately it forms something of an ‘institution of the commons’ (Roggero, 2011). ‘These should not be thought of as ‘happy islands’, or free communities sealed off from exploitative relationships’ – explains Gigi Roggero in his attempt to situate ‘the commons’ in the current conjuncture:

Indeed, there is no longer an outside within contemporary capitalism. The institutions of the commons are the autonomous organization of living knowledge, the reappropriation of social wealth, and the liberation of the powerful forces frozen in the threadbare dialectic between public and private: black studies since the 1960s and the contemporary experiences of autonomous education, or self-education. (Roggero, 2011: 9)

Conclusion

Towards the end of *Tools for Conviviality*, Illich warns of an ‘inevitable catastrophic event’ and speculates that this ‘foreseeable catastrophe will be a true crisis’ (Illich, 2009b: 105). An authentic crisis is one, Illich insists, ‘that is, the occasion for a choice —only if at the moment it strikes the necessary social demands can it be effectively expressed’ (Illich, 2009b: 106). In engaging the crisis in order to anticipate its effects, we must investigate how sudden change can bring about the emergence into power of previously submerged groups. But we must examine the calamity more closely. ‘It is not calamity as such’, explains Illich, ‘that creates these groups; it is much less calamity that brings about their emergence; but calamity weakens the prevailing powers which have excluded the submerged from participation in the social process’ (Illich, 2009b: 105).

These ‘submerged groups’ that are increasingly more visible in the current moment are folks committed to a ‘conscious use of disciplined procedure that recognizes the legitimacy of conflicting interests, the historical precedent out of which the conflict arose, and the necessity of abiding by the decision of peers’ (Illich, 2009b: 106). For Illich, ‘the preparation of such groups is the key task of

new politics at the present moment' (Illich, 2009b: 106). This 'new politics' requires a new 'modern toolkit', one similar to that forged by the Zapatistas and claimed by those who struggle together to learn a new way of doing politics.

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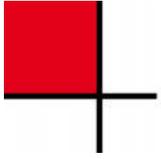
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The right to care: Entering outside in the southern European crisis of welfare

Marta Pérez and Francesco Salvini Ramas

Introduction

In these notes, we share the questions and challenges around care and health that emerged in the research project *Entrar Afuera (Entering Outside, 2016-2018)*, a multi-site and multi-format dialogue around critical practices of healing and caring in three sites in southern Europe, Trieste (Italy), Madrid (Spain) and Thessaloniki (Greece). As we will see, we focus this text in Trieste and the dialogue with Madrid*. Driving us in this project was our common aspiration to reflect about the urban practices of care during and after the crisis that began in September of 2008. However, there was also a common ethic of emancipation in the institutional critique – the examination of how institutions were caring for people in that critical moment and toward a horizon of change – the imagination of how people could use and fashion institutions in order to care for each other.

We started from an intuition that the critique of the economic crisis, and the widely expressed need to defend public welfare institutions being attacked by policies of austerity, could open up questions about the theory and practice of public welfare institutions and their relationship with health, care, and emancipation. In this direction, this article brings together a number of terms and concepts that emerged in our dialogues and encounters and that we consider important in the work of resignifying the right to health as a common practice of

* This project involved an assembly of collectives, institutions, and individuals, in diverse ways. The reader can find more information at www.entrarafuera.net. For Thessaloniki, the contacts have been mainly based on activist practices for universal healthcare when access is denied to particular population groups (migrants with precarious status, long-term unemployed people, etc.).

caring with. Caring with as a constant engagement with the infrastructure of care, and a practice of permanent repair of the welfare state. This repair of infrastructure should not be understood as an exercise of reform, that constantly reproduces and conserves the institution, but rather one that puts it in relation with, and within, the current crisis, as a transformative endeavour and sustainable alternative.

In this context, the crisis emerged as an immanent tool used by government to recompose social production and control. The crisis has been particularly ambivalent in the south of Europe, not only (and dramatically) as the pretext for the mobilization of hate and fear, but also as the frail – but decisive – beginning of new modes of organising care, rights and social change. To put it another way, this crisis carries within it a transformative power: first, because it reaffirms the antagonism between society as a fabric of interdependent singularities and the state. Second, because it is the space in which these interconnections among singularities can institute new modes of collective response to social needs and desires, while destituting and reinventing the state in the meantime.

Destituting, as a practice that challenges and dismantles the instituted, and inventing the state means enacting a reparative capacity that intervenes and changes the functioning of public infrastructures (Berlant, 2016). Looking at the crafting of institutional practice through the lens of ‘infrastructural repairing’ show us how much institutional invention is a molecular process immersed in social (and contrasting) dynamics. This text aims to contribute to thinking about emancipatory transformations of the state, most concretely in the relationship between policies and social life. If welfare institutions are spaces of control and discipline as much as they are of care, and if neoliberal theories and practices construct an individualist approach to the provision of welfare services, what space is left for social practices to agitate public policies of care? What sustainable practices can we invent to care not only for the self, but for each other while emancipating our society from the imposed constraints of institutional norms?

In dealing with these questions, we share here the dialogue with Trieste, the site with which we have had the strongest engagement with, participating in regular discussions with the healthcare workers and activists based there. In a slow but penetrating manner, these reflections are taking root as part of the discussions on community health and institutions in some of the spaces we are engaging with in Madrid.

In these discussions with Trieste, we have used three concepts to reflect on practices of health and care: Threshold, Contradictions, Translation. As a research group and community that extend beyond the authors of this article, our

research tools have been two-fold. First, drawing on the rich tradition of militant research, we have engaged with practices of health and care in Trieste; and with political and institutional practices for access to healthcare and the right to health and community health in Madrid. Second, we have experimented with the narrative form, seeking to find ways to displace ourselves as researchers in order to develop a shared language with those we were encountering, through the registers and canons of aesthetics and community engagement.

The sites of research

The text we present here moves from field notes from the first research site, Trieste where the dismantling of the psychiatric hospital in the 1970s started a profound experimentation with health and care beyond the limits of mental care and in the urban space. Since the early 2000s, the logic of care affirmed by the Basaglian movement has become a governing force of the social healthcare system of Trieste and the Friuli Venezia Giulia region generally. Trieste can be addressed as a *singular* governmentality that has been experimenting practically with a different logic and functioning of the state-machine in healthcare over the last decades (Salvini, 2016a).

In what sense a singular governmentality? As we will see below, care practices in Trieste are inserted in an institutionalized public system invented in the specific experience of the Basaglian movement, one that put technical knowledge and power at the service of the people within their social environment; this brings a specific mode of conducting and governing ourselves and others, whether professionals or users of the system.

As we have reflected together about the practice in Trieste, some questions emerged for our group in Madrid. These included a consideration of the Madrid's impulse for community healthcare in the 1980s that is now being revisited; the defence of the public system against the policies of austerity and privatization; and how this contributes (or not) to opening up discussions about social and democratic approaches to care and healthcare. These questions are particularly significant in the institutional challenges that Madrid, Barcelona, and many other Spanish cities are experiencing after the social mobilizations of 2011. In this context, with cities governed by parties formed in the wake of these movements, it is critical to elaborate the differences between an experimentation enacted as 'governance' and 'better management', and one enacted through the 'institution of another practice'.

Threshold

In one of her chronicles, Irene R. Newey, one of the research group members, activist and nurse based in Madrid, recounts her first encounter with the Microarea Programme in Ponziana, Trieste. The Microarea programme is a set of interventions into several vulnerable urban spaces in which healthcare programmes, social services, and housing provision intersect. Several local social networks are involved in designing public policies of care at the local level. Because of its social dimension, the Microarea is also the frontier where the logic of the welfare state and its relationship to the logic of medical knowledge becomes more unstable, since the protocols of provision have to be changed according to the situation. The Microarea is also a place, in the neighbourhood, open five or six days per week, where people can just show up to ask for support (on everyday life activities, such as shopping or medication), participate in the activities (for example of socialization) or actively collaborate in the social dynamics of the centre (for example organising the local food bank).

The concept of the threshold emerged as a way for us to think about this site (Stravides, 2015). Inhabiting the threshold between society and the state, rather than affirming the boundaries of professional competence, permits the constituting of another process of care. This threshold is the place where Microarea workers situate themselves, and a condition of possibility, for doing the job they do. As we came to understand through a series of workshops in 2016:

[in the Microarea Programme] the role of the public worker is not prescribed through a series of limits and duties through which the citizen is included – as part of the state, as the objective recipient of resources, attentions, benefits. [...] In other words, the production of provision happens on this threshold, as a device that destitutes and institutes [the institutional] practice. (Salvini, 2016b, n.p.)

Destituting is the action of disarticulating the crystallized modes of administration, while the practice of instituting configures new operational modes both in the Microarea and in the whole system:

We are not a service that is in charge of concrete tasks or functions. Therefore, we do not solve each and every problem on our own. The Microarea is a device with an open mandate to activate existing resources, invent new resources, and knit and sustain communitarian bonds. The resources that the program activates can be institutional, such as healthcare services, social or educative support, or tasks related to benefits or to housing; they can also be resources that already exist in the community, that come from the people inhabiting the territory and nurturing their neighbours. (Ghiretti, notes by Newey, 2019)

In Newey's words:

I feel vertigo, all of a sudden and strongly. Nobody seems to control what is happening; things happen, people come and go, they make and unmake, and I cannot understand their roles. Who is a professional; who is a volunteer? ... I feel overwhelmed by the idea of having to deal with problems as they come up, with the people as they step in. (Newey, 2019)

The experience of losing control (Petrescu, 2005), as expressed by Irene R. Newey, becomes the site in which one must deal with the complexity of the practice of care in the urban context. Losing control means recognising the rights of the user as the starting point of any care practice. It is from this recognition that the reorganization of the institutional structure can and must begin. The institution is no longer a rigid frame that constrains the patients' lives within the limits of the hospital. Instead, the institution is invented by facing its contradictions and reformulating its rules, protocols, and procedures in order to reinstitute itself around the lives of the users.

Contradiction

Losing control is not about renouncing your competencies; rather, it is about taking responsibility around a complex situation. Responsibility appears here as a composed word: the ability to respond to the situation and from within it, where caring consists of a practice that deals with contradictory elements and tries to make sense 'with' the realities around it, rather than 'of' them (Lorey, 2019; Haraway, 2016).

In Trieste, the open-door mental health system has a long and sustained history that comes from the closure of the psychiatric hospital. The risk involved in closing the hospital was that people in distress would be abandoned to their families and/or to poverty, without any social fabric to sustain them. In Trieste, the result was different because the process was different: it attempted to end the sectioning of both the person in distress and the professional in charge of caring but to keep the right to asylum as a personal right to shelter and refuge in the moment of vulnerability.

This involved disarticulating psychiatry as a technology of power (Castel, 1988), breaking not only the established stigma that linked suffering with dangerousness, but also the combination of interests constituted through medical knowledge and corporate governance in the institution of the asylum. At the same time, in order to destitute the asylum, the challenge was to build strong networks within urban life, bringing the technical knowledge and the responsibility of professionals outside the asylum in order to configure new modes of social organization of care in the complex life of the city and sustain the

right to the constitutively difficult freedom of the most vulnerable citizens in urban life (Giannichedda, 2005).

At the same time, it was about destituting and emancipating the position of technicians, whiting the system: the holders of a *techné*, a capacity/mode of doing – against and beyond their traditional role as guardians. Where the technicians at the same time hold power, reinforce violence and feel incapable of doing otherwise. Far from causing inaction or cynicism, awareness of this contradiction invokes the transformation of the institutional practice, as long as the technicians recognize themselves as having a political agency.

In the words of Giovanna del Giudice,

if the asylum was chains, sectioning, distance, exclusion, segregation, then it was unacceptable to me, and worth fighting against. I don't know if I actually wanted to destroy the asylum. However, as Franco Rotelli says, it was necessary, it was essential to find an alternative to that violent and segregating institution, to replace it with "invented institutions." Because the end of the asylums is not the end of suffering. It is not the end of mental illness. It is not the end of the need for proximity and support for people deprived of their rights, the need to sustain them in accessing the rights of citizenship. And we needed to invent new institutions capable of achieving this goal. (Del Giudice, 2019)

In her visit to mental health services in Madrid, during one of the activities of the project, Del Giudice never stopped asking questions:

how many beds are available in this service? Why is there a sign to ask for the lighter in the common room? ... Why the iron bars in the windows, if this is not a psychiatric ward? Far from being moral judgments, these questions about daily practices are the product of a constant interrogation of the relationship between theory and practice, a relationship that continuously reveals the contradictions and, with them, the "hidden possibilities for reproducing oppression" in daily institutional practice. (Pérez, 2019)

Maria Puig de la Bellacasa also refers to the ambivalent dimension of caring:

To reclaim often means to reappropriate a toxic terrain, a field of domination, making it capable of nurturing; the transformative sees we wish to sow ... acknowledging poisons in the ground that we inhabit rather than expecting to find an outside alternative, untouched by trouble, a final balance – or a definitive critique ... Reclaiming care is to keep it grounded in practical engagements with situated material conditions that often expose tensions. (Puig de la Bellacasa, 2017, 11)

These contradictions are always present in the institutional mandate as a whole and in the singular competencies of each worker; they are also present in the institutional management of care as a collective endeavour. As in the practice of critique, thinking about the contradiction is not a matter of judging who or what

is right or wrong, but rather a matter of untying the contradiction in a different way each day, because the assemblage of a specific situation requires a singular approach to the problem.

Translation

In the experience of psychiatry reform in Trieste, the relationship between institutional limits and potentialities has been tested and reorganized through the radical subjectivation of technicians. This subjectivation rests upon conditions of possibility rooted in the specific history of Trieste: the process of transformation of the asylum was embedded in the Italian radical mobilizations of the 1970s, particularly through the involvement of social movements in both critique and appropriation of the institution.

This singular situation requires us to interrogate the possibilities of translating the practices and unrest of Trieste to environments and traditions that are completely different. At the same time, the questions that emerged in this radical reform of psychiatric care can interrogate social practices far beyond mental healthcare. How can we translate these questions from one site to another, from one threshold to another? How can we deal with the contradictions raised by critical institutional practices, and do so not by trying to solve these contradictions, but by being willing to *lose control* and inhabit them?

In Trieste, we found an experiment in translation beyond the limits of mental healthcare into new mechanisms of local primary healthcare services. The invention of the Health District (HD) in the late 1990s was, as Salvini puts it:

the way the healthcare system in Trieste tried to move the practice of care from the hospital into the spatial dynamics of the city, moving technical practices as well as human resources from the institutional site to urban life, and opening the challenge of “take responsibility” of the complex life of the citizen in relation to the plural endeavour of care. There are four HD in the city, each of which tends to a population of approximately fifty thousand people, coordinating with the general practitioners and providing homecare and personalized care in the neighbourhoods through a system that uses nurses, specialists, physiotherapists, and other professionals. Outpatients’ clinic, temporary care residences, rehabilitation consultancy facilities. Bursaries, targeted budgets, and social benefits are also part of the district, managed from the healthcare system in coordination with other institutions.

...

Workers from each district follow the inhabitants when they are hospitalized. They visit the patients, follow their stay in the hospital by contacting their doctors, and

discuss the situation with the rest of the HD staff and the patients' relatives or relevant others. At the same time, they can start mobilising the resources that will guarantee the patient's dignity and full right to health in her normal life context after she is discharged. This involves mobilising social and economic resources to support her, configuring caring and healing devices in her apartment: a thorough and safe displacement of the practice of care from the institution into social life. (Salvini Ramas, 2019)

Because institutions have a tendency to passively revert to acting like places of set rules and roles, ongoing critical work is necessary to place the institution, again and again, back into relation to the social needs and desires that legitimate its action (Deleuze, 2004). Only then from this new position will new fields of possibility open (Merleau-Ponty, 2010; Tosquelles, 1966). Translating the institution means exposing and opposing the institutional tendency to reproduce its own power, in order to reaffirm the institution itself as a social, and continuous, production.

As Franco Rotelli (1988) puts it, the role of the institutional practice is to support and guarantee the reproduction of society, not that of the institution itself. The institution should sustain users with resources in their moments of frailness, putting resources to support social reproduction (and transformation) rather than institutional reproduction (and inertial repetition). Translated beyond its own reproduction, the institution will have to invent new ways of organizing care in relation to new users, new fragilities. And this should not be a problem, but an opportunity for the institution to reinvent itself, its practices, and protocols, in relation to the life of the citizen, and to the life of the city in general.

Right to care

Thresholds, contradictions and translations are the three conceptual tools we have used so far to underlie a palimpsest of voices that affirms a new possibility of care in the urban context: at the core of our conversations and discussions was the need to rethink the 'right to health'.

What if all these structures were properly put into value? ... What if we recreate these crossing points, this new alliance, between the designated institutions and the people? We could really imagine that the citizens constitute themselves as those who have the right to care, and that this care is a responsibility of the city: a city that cares for every single one of its citizens and by so doing, constitutes citizenship and constitutes itself as a city. (Rotelli, 2019)

When the practice of care is normalized into a fixed set of protocols, it could appear as a mere 'scientific' exercise. But all the aspects that Rotelli points out above are also part of the practice: specific politics, cultures, and power and

knowledge arrangements become objectified and fixed in the protocol (Fassin, 2000). Being conscious of that can drive another practice of care, one that is about thinking with a variety of tools, experiences, resources, kinds of knowledge, and emotions. It is about opening the threshold of the institution and getting lost in the city.

As we learned from our discussions in Trieste, the only way to defend the public system of care is by continuously transforming it; dismantling the exclusive and corporate model that institutions tend to reproduce and reorganising institutions so they support common practices of mutual care. In this sense, the right to care that we propose here is wider than the conventional understanding of the right 'to health': it is not just the entitlement of an individual to be taken care of, but our common right to care for each other. Over the course of this research, the collective dimension of health and care has gained its full meaning, prompting a formulation of the right to care as a practice of caring *with*, a practice immersed in social life. At the same time, the right to care is a challenge that continuously transforms the institution, so that care is given back to society as a common responsibility. Such a transformation is not a perpetual restructuring, as the neoliberal practice entails, but a constant upkeep and maintenance of things and relations (Berlant, 2016; Puig de la Bellacasa, 2017). In other words, the reinvention of the institution, or the repairing of the welfare infrastructure, is not a reformist exercise of institutional conservation: rather, it is a socio-technical endeavour of invention that involves both the emancipation of social agents, and the democratization of those technical knowledges embedded in the institution.

Only embedded in this institutional practice can we think about a 'right to care'. This right to care has two dimensions. The first is an urban one, where care emerges as a collective *oeuvre*, as proposed by Henri Lefebvre (1991): a materialist appropriation of the right to the city that immerses the logic of rights into social milieus. If we return to Giannichedda's idea of sustaining the constitutively difficult freedom of urban life, (2005) we see now that the right to care is not about delivering a good (or bad) service; it is not about provision, but about the encounter that happens in each singular situation, and the institutional response must then emerge in accordance with it.

The second dimension is the institutional one: the reaffirmation of the institution's responsibility and the disruption of what looks like its autonomy. Affirming the right to care means opening thresholds; working with, within, and between contradictions; and conducting translations within the institution. Inventing institutions means articulating a collective practice within the institution that can sustain society in the affirmation of its own emancipation:

The production of life and social reproduction are the practices of the invented institution; they have to avoid the narrow path of the clinical gaze, the psychological investigation, and the phenomenological comprehension, becoming instead fabric, engineering, capable of rebuilding sense, producing value and time, taking charge, identifying situations of suffering and oppression, re-entering into the social body, into consumption and production, into exchange, into new roles and new material modes of being with the other, of being in the gaze of the other. (Rotelli, 1988; reviewed translation by Salvini).

To conclude, affirming ‘the right to care’ allows us to imagine rights beyond a passive entitlement, as a process of collective organization. A different sustainability of institutions, always situated, always in translation.

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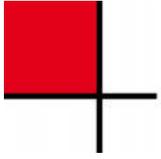
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Repeating brokenness: Repair as non-reproductive occupation, improvisation and speculation

Gigi Argyropoulou and Hypatia Vourloumis

Introduction

Repair is commonly associated with improvement, with making better, with fixing. But what happens when it is impossible, and even undesirable, to fix what is broken? Or when we are not only incapable of total repair but also seeking to politically and collectively attend to the breakdowns and crises that expose the corruptions of a dominant system? If logistical and algorithmic capitalism operates through constant improvement what would it mean to refuse to improve ourselves, to claim our incompleteness, to jay-walk, to live with brokenness? These questions are ones we have been grappling with for several years in Athens, Greece. Through practices of illegal occupation and repair, we have been engaging in a wayfaring ‘wayfinding’ through social and cultural experimentation (Ingold, 2000).

In the following, we return to these experiments of symbolic and physical repair, namely the occupations of the Embros theatre in 2011 and Green Park café in 2015 in central Athens, and the community building and performance making these occupations enabled. Responding to a lack of cultural state and private funding and infrastructural support, exacerbated by Greece’s bankruptcy and debt crisis which officially began in 2010, pressing questions at the time of occupying and repairing these two public buildings were: how can those who are broke, take over the means of production of abandoned spaces infrastructurally, organisationally and aesthetically? Furthermore, how were practices of improvisation, speculation and non-reproduction addressed and manifested by

the respective occupations' refusal to reproduce the norms and conventional structures of cultural production by staying in a zone of experimentation and open participation? These are just some of the questions and practices we seek to elaborate on in these notes. In so doing we think through the improvisatory and speculative practice of repair and the ways in which repair can also be contingent on the avowal of repeating brokenness and a refusal of improvement: we ask, what must be repaired and what must be refused in order to enable the organisation of alternative cultural structures?

Occupying, repairing and performing in Embros and Green Park

In November 2011 the Mavili Collective, a small group of performance makers and theorists who took their name from Mavili Square where they often met, occupied the Embros public theatre, a state owned building left empty for seven years.¹ After a series of meetings held over a period of several months with people from the arts and education, Mavili composed and released a manifesto which openly called for collective efforts to occupy Embros with questions and ongoing processes of experimental cultural production rather than use the space to release finished and fixed products (Mavili Collective, 2011). Mavili's call was ephemerally addressed by a large showing in support of the occupation that included people from diverse art, architectural, theoretical and cultural fields. Importantly, repairing the infrastructure of the building through DIY methods was necessary before the occupants could begin experimenting with different forms of instituting and performance.

These repairs necessitated, as Stephen Graham and Nigel Thrift note in their essay 'Out of order: Understanding repair and maintenance', processes of 'ongoing, situated inquiry' and 'improvisation' (2007: 4). In the context of Embros this situated inquiry and improvisation entailed cleaning the space, identifying structural problems of the building, as well as organising, displaying, reusing and archiving the props, costumes and objects used during the theatre's past life and found abandoned in dusty heaps strewn across the theatre. Workers such as engineers, plumbers and electricians also offered their time and knowledge mostly on a volunteer basis or at a discount price, while costs were covered by pooling finances between members of the collective and their friends and acquaintances. These repairs enabled the opening twelve-day program of the Embros occupation which brought together around 300 presenters entailing several generations of cultural workers across different practices including, but

1 The members of Mavili Collective were: Anestis Azas, Gigi Argyropoulou, Argiro Chioti, Georgios Kolios, Kostas Koutsolelos, Georgia Mavragani and Vassilis Noulas.

not limited to, artists, academics, anarchists, immigrant performance groups and students, all of whom occupied the same stage. Seeking to disrupt the hierarchical structures of the art market, the program primarily emphasised the sharing of works in progress, open rehearsals, and incomplete experimentations, reversing audience's expectations and the usual categories and consumption of theoretical and cultural production.²



Image 1. Embros Reactivation, 2011. Photo: Georgios Makkas.

Four years later, the occupation of the Green Park café in 2015 was formed from a large collective of people who met in Embros and who now called for joy, friendship and politics to emerge in more unexpected broken places (Green Park, 2015). Also state owned and abandoned for seven years Green Park required even more labor to clean the space from tons of rubble and waste, attend to structural problems, provide water, electricity, furniture, again offered on a volunteer or discounted basis by different collaborators. What would an infrastructure of friendship, joy and brokenness entail in practice? This, along with many others, was the inevitable aporia emerging from the returning to and repairing of these two spaces so as to re-address cultural production and collectively rethink the

2 For details on this opening programme see: <https://mavilicollective.wordpress.com/re-activate/programme-day-by-day/>.

processes of decision-making and organisation through models of mutual aid which emphasised voluntary cooperation.



Image 2. Cleaning of Green Park, 2015. Photo: Evi Kalogiropoulou.

Once the programs were up and running the collectivities and presenters involved joined forces so as to attend to the continuous repairs and maintenance required ranging from cleaning, guarding equipment, lending or borrowing technical infrastructures such as lighting and consoles, cutting multiple sets of keys so different people could attend to the needs of the buildings and cultural programming in shifts. Although the Mavili manifesto had initially stated that no monetary exchange would take place in the space of Embros someone one day anonymously turned a glass upside down on the bar with putting money in it. This became a collective pot and was a practice repeated in Green Park also. People continuously donated cash, which allowed both spaces to run a bar to support daily expenses, gradually reimburse those who had contributed money for the initial supplies and services required and further strengthen the structural problems of the buildings that were constantly breaking down. Audience members and passing visitors became active participants in attending to structural issues of the physical spaces by sharing their know-how and labour while also participating in the critique and direct action of the cultural programmes through lively Q&A sessions. Balancing between structure and improvisation, the events of each day were always in the making, never fixed,

reprinted and re-organised daily in response to new arrivals and expressed desires to participate, while the presenters and audience actively produced the space through new ideas for actions and curation, drink and food offerings, impromptu debates, the donation of equipment and tools, informal reflections and discussions. Thus, in both occupations coinciding practices of repair and performance production happened at the same time where forms of cultural experimentation were contingent on the actual material conditions of the respective spaces. Resisting, in Antonio Gramsci's words, the cultural 'manufacture of consent' (Gramsci, 1971) sedimented by reproductive practices within the Greek milieu, the programmes of Embros and Green Park produced unexpected, unfamiliar spaces in the heart of Athens drawing large and diverse audiences expressing their own civic capacities to challenge assumptions and norms of cultural spaces through the collaborative repair of the material conditions in which the performance of new ideas and visions could take place.

Breaking (with) the terms of order

All efforts to attend to the site-specific needs and repairs of the two occupied spaces were readily offered by way of a sharing of time, know-how and resources by the participants involved. These responses reflect the ways in which, as the Greek debt crisis deepened (and deepens still), what was increasingly collectively perceived to be glaringly out of order were the terms of order themselves. As Cedric Robinson emphasises in 'The terms of order', western liberal political and economic structures must be treated as objects of inquiry and denaturalised. Troubling the myth of state leadership in western democracies that supposedly instills the illusionary management of order over chaos Robinson seeks to 'abuse the political consciousness' (Robinson, 2016: 6) by uncovering institutional and historically patterned mechanisms of power and authority, and detailing radical epistemologies and ontologies preceding and exceeding those mechanisms. By attending to what was out of order and to be repaired in the spaces of Embros and Green Park through improvised ongoing situated inquiry was also to critically engage reproductive systems that concretise political and economic rules. The emphasis on non-hierarchical organisational structures within the occupations and the call for collectively-run autonomous spaces and art-making were, in both cases, a refusal of the terms of order that manifest and produce capitalist social relations. The collective moves to Embros and Green Park were attempts to reflect upon questions of functionality, representation and identity by refusing to settle for a fixed political character, by refusing to reproduce models of management and cultural authority, by refusing a marketing of the spaces and the reproduction of the power relations emanating from both the state and the conventions of oppositional organising. In the context of Greece, the crippling

austerity measures, over-taxation, sale of public lands and resources, evictions and privatisation of Greek public goods so as to meet the conditions laid out by Greece's lenders after it defaulted in 2010 reveals the ways in which the Greek 'debt crisis' is a mode of governance and expropriation. At first, as the Greek state sunk into further debt resulting in a further defunding of cultural production the Mavili Collective attempted to engage in processes that sought to improve conditions in the cultural sector through dialogues with state mechanisms. However, as the crisis escalated and the dialogue with state actors deteriorated, the occupation of Embros was initiated as a practical experiment and a paradigm of direct action where 'artists, theoreticians, practitioners and the public will meet and try out models beyond the limits of their practice and the markets' structural demands of the artistic product' (Mavili Collective, 2011). Through the occupation of Embros which after a few years enabled the subsequent occupation of Green Park, the cultural producers involved forwent demanding rights from the state as a solution to the situation or an act of repair and instead deployed 'friendship as a political relationship in a struggle against cultural and artistic monopolies, "creative cities" and their production lines of co-optation' (Green Park, 2015). Thus, in their rejection of state cultural policy both occupations sought to repair broken spaces so as to encourage experimental practices and collaborations that broke away from the established terms and conditions of social, cultural and political order and reproduction.

Brokenness and non-reproduction

Both the occupations of Embros and Green Park as refusal of the terms of order of cultural policy can be understood as instances of fugitive planning and collective study where the 'plan is to invent the means in a common experiment' (Harney and Moten, 2012: 74). The Embros and Green Park manifestos and occupations rejected the separations inherent to the status quo of cultural institutional affiliations, professionalisation, induced cooperation, and public relations by offering the option for participants to share resources, to willingly engage in experiments in curation, exhibition, and performance, to choose to engage in an immeasurable and unpredictable being and thinking together. The occupations were spaces of collective study as they specifically sought to produce structures that not only responded to the precarious cultural landscape of Greece but also encourage emergent practices bound up with building 'infrastructures of transformation' (Berlant, 2016), where transformation here has less to do with the physical infrastructure provided for life to happen in and more about questioning the organisational notions of structure and transformation altogether. Echoing Lauren Berlant our interest was in how 'the repair or replacement of broken infrastructure is ... necessary for any form of sociality to

extend itself' and 'how that extension can be non-reproductive, generating a form from within brokenness beyond the exigencies of the current crisis, and alternatively to it too' (Berlant, 2016: 393). Embros and Green Park were efforts and ephemeral voluntary cooperations that sought to extend a non-reproductive sociality from within brokenness where a practice of material repair was necessary for other practices of cultural collaboration to be generated. The performances and presentations in both occupations were non-reproductive because they were ongoing experiments with the informal where the inhabitation, repair and maintenance of these disintegrating spaces were, simply put, a way for people to get together, to find refuge, to collectively share practice and thought. This practical experimentation through a process of continuous 'non-reproductive' trial and error both embraced and challenged collective capacities for repair where artistic and curatorial forms, contents and approaches were determined by the material conditions of the spaces. The site specific particularities, histories and constraints of the spaces drove and constructed experiments that cannot be reproduced as structural models since operations and strategies initiated in order to address the repair of specific broken spaces were contingent on emergent methods of improvising ways to live in brokenness as a means to invent and extend alternative forms of cultural representation.

A poetics of repair: Potential

One of the experimental practices of fugitive planning, living with brokenness, and non-reproductive repair and representation emerging from Embros was our collaborative project *Civic Zones*. In the summer of 2012 as Greece was in the throes of negotiating another loan installment from the IMF, ECB, and European Commission while bracing itself against a new set of austerity measures and witnessing the alarming legitimization of an organised neo-nazi political party, we set off on a walk through the dilapidated centre of Athens armed with masking tape, a marker pen and a camera. We began from the occupied theatre, heading in no particular direction, marking abandoned spaces with the words 'potential' and its equivalent in Greek 'εν δυνάμει' (*en dynami*). As urban impoverishment deepened, empty spaces proliferated. Yellow and red signs for 'to rent' and 'for sale' multiplied and still multiply throughout our cityscape. As we walked we imagined these deteriorating empty spaces be given life; scrawling on them, we called out for their transformation by way of anomalous and illicit repair, organisation and inhabitation. In this jaywalking project, by making spaces present we sought to draw attention to the invisible, to what are materially sites of haunting, contemplation as well as potential dynamism. This experiment in a poetics of repair sought to live in and with ghosts, with the brokenness of things, to experience haunting as 'an animated state' where 'social violence is making

itself known' and where 'repression or blockage is not working' (Gordon, 2004). Thus, in mending things that alter those things in unpredictable ways, the aim is not to return them to their original state and function, but to create new forms where making and repairing are one and the same, where fugitive planning is 'the ceaseless experiment with the futural presence of the forms of life that make such activities possible' (Harney and Moten 2012: 74). To occupy and maintain neglected social and cultural spaces is to live in and repair the very notion and practice of sociality and cultural production through brokenness. Our walk materialised a performative refusal of settling where exiting a broken political and economic system potentially takes place by an illegal breaching of walls: collective attempts to fugitively plan the repair and transformation of haunted abandoned spaces as modes of emergent inquiry and 'aesthetic sociality' (Harris, 2018).



Image 3. Civic Zones: Potentials, 2012. Photo: Gigi Argyropoulou and Hypatia Vourloumis.

Return, repetition, non-reproduction

Repair requires necessary return: a tuning into hidden frequencies and reverberating echoes, an attentiveness to the brokenness that is historical dispossession where reparation is not compensation but a keeping alive across non-reproductive difference. For, to engage with ways in which transformations and extensions can be non-reproductive is to work through questions surrounding the historical social reproduction of life itself. Paul Preciado

reminds us that the ‘evolution of culture (technology, ideology) feeds back into the regulation of life, influencing – and obfuscating – the means by which power carries out the fundamental task of controlling and managing reproduction’ (Preciado, 2018: n.p.).



Image 4. *Civic Zones: Potentials*, 2012. Photo: Gigi Argyropoulou and Hypatia Vourloumis.

The denaturalising of reproduction across ‘different regimes of power that operate on life and that, in their entangled complexities, constitute us as subjects – as *political living fictions*’ exposes the illusory nature of separations based on the reproduction of dominant categories such as class, race, gender, sexuality (Preciado, 2018: n.p., emphasis in original). The occupations of both Embros and Green Park refused these divisions by bringing together people usually separated by regimes of power and the working conditions of art production. Sharing the spaces and stages diverse collectivities including queer, feminist, anarchist, migrant and refugee groups and activists, theorists and performers across different classes, institutional standing, ages and ethnicities intersected so as to work upon questions of social and artistic reproductive labour. Moreover, in taking over the means of production the occupations were a collapse of the separation between the labour necessary for maintenance, repair, forms of housework, and material and immaterial artistic practice: after each performance the presenters, regardless of how ‘established’ they were or not, were responsible for sweeping and preparing the stage for the next presenters, bartending, cleaning toilets etc. The illegal occupations as direct actions and autonomous experiments ‘outside’ the conventional rules of the market necessarily

heightened an awareness and collective mindfulness of their dependence on reproductive labour in terms of work and art as inseparable practices. In the ruins of a building repair and maintenance now come to function as a continuous practice of re-imagining labour along with social and artistic conditions. Thus, allowing for disordering experimental cultural and social forms to emerge from brokenness through practices of repair is to always contest the potential of such repair and maintenance in relation to communication, transmission and reproduction.

Graham and Thrift argue that along with ongoing situated inquiries and improvisation, practices of repair also necessitate complex theorising, 'simple repetition' and 'clear' communication (Graham and Thrift, 2007: 4). Yet the repetitions and communications inherent to repair are rarely simple and always contingent on variation. As Gilles Deleuze writes in 'Difference and repetition', repetition must be opposed to generality because 'beneath the general operation of laws' there is always the play of varying singularities, such as the variations unleashed from the repeating of festivals and the act of throwing dice (Deleuze, 1994: 25). Critical of epistemologies of representation, identity and recognition, for Deleuze, the varying singularities of difference and divergence manifested within every return, refrain or repetition emerge from the contingencies and intensities of every encounter and the 'discordant harmony' of communication as it leaps and metamorphoses in 'differential flashes' (Deleuze, 1994: 145-146). The inevitable discordances and disagreements flashing from new encounters and ideas, undetermined collective organisation, and the maintaining of occupied spaces by open assembly entails a repeated confrontation with sedimented practices and imaginaries of social composition and reproduction. For Deleuze it is imperative to return, to repeat a throwing of the dice so as to unfurl a resonance where 'divergence itself' is 'the object of affirmation within a problem' (Deleuze, 1994: 198), since innate to the aleatory character epitomised in the successive throwing of dice are the differential and unpredictable outcomes and relations generated. To return to the neglected and decaying spaces of Embros and Green Park was to choose and engage an 'affirmation within a problem', to take a collective chance, to risk disagreement and collisions, to speculate upon and live with the differential consequences of repeated repair.

A poetics of repair: In speculation



Image 5. *Civic Zones: In Speculation*, 2015. Photo: Gigi Argyropoulou and Hypatia Vourloumis.



Image 6. *Civic Zones: In Speculation*, 2015. Photo: Gigi Argyropoulou and Hypatia Vourloumis.

On the 24th of January 2015, one day before the elections in Greece and a few months before the occupation of Green Park, we returned to and repeated our *Civic Zones* walk and marked the walls and spaces with different words now: 'in speculation'. We walked with the knowledge of the spectacular failures of austerity, the deeper poverty and abjection of the city and its people, we walked carrying both the personal and collective knowledge formed from the potential and impotential of many struggles: undeniably hopeful that there would be an electoral victory for the Left. Playing with the multiple meanings of the term 'speculation' as it relates to both financial operations as well as artistic ones, we were aware that the emphatic refusal of representational politics from within occupied spaces which now looked to a political party running on a platform of anti-austerity and debt relief meant a shoring up of the terms of order of elected state leadership. Proving Robinson correct, Syriza, the party voted in to power on January 25, 2015 (Coalition of the Radical Left), embraced the ethos that there is no alternative to the neoliberal order of things and has proceeded to implement harsher austerity measures and the auctioning of public goods and resources in the interest of securing the bank rolling necessary for the maintenance of state authority. To keep on refusing to reproduce these ongoing structures of governance and improve ourselves according to set political, economic and social parameters means to persistently stay in the zone of experimentation and alternative speculation.

Repeating brokenness

The repair, performances and gatherings the occupations of Embros and Green Park required and enabled were speculative practices bound up with the repudiation of the categorisation, measurement, and marketisation of those practices. If for capital the future is a matter of financial speculation, the occupations materialised alternative valuations of social and cultural relations and practices which, in their repetition, cannot be fully fixed, predetermined or commodified (Houston et al., 2016). To choose to *show up* in these spaces and gatherings in constant uncertainty and risk is to engage with the sense and knowledge that different worlds already exist and are speculatively produced with others. Yet, these spaces and practices require the reproductive labour necessary for their maintenance. For as Marina Vishmidt insists 'to say art is 'speculative' is ... to impute to it a form and method of thinking and doing which is open ended in its relationship to means and ends and, thus, to (social) values and (economic) value' (Vishmidt, 2016: 43). For Vishmidt it is imperative that we always attend to the ways in which the *social* character of art is itself a form of material labour that in its transformations must confront its own institutional reproduction (Vishmidt, 2016: 45). The community-run spaces of Green Park

and Embros, in their repair and attempts at institutional transformation were forced to look at cultural and artistic production's own labour conditions before and while it experimented with broken material as sites for speculative metamorphosis. The solidarities and shared labour necessary as conditions of possibility for the occupations and the artmaking within them were constitutive and reverberate as dissonant refrains where repressive images, ideas and languages of dominant cultural and political representation and identity were rejected for the *work* of imaginative aesthetic sociality. Repeating brokenness in our refusal to get with the program, to become better indebted subjects, to improve ourselves according to the illusory terms of political capitalist mechanisms is to embrace a collective labour that produces social disorder. It is to ask: what must be produced and reproduced as repeated and divergent refrain in order to not reproduce dominant models of socio-economic state and financial management? Perhaps one way to address this ever-present question is to invent the means to fugitively plan ceaseless experiments in abandoned spaces that are repaired so as to remain in incompleteness and brokenness together as repeated speculative rehearsal for social non-reproduction.

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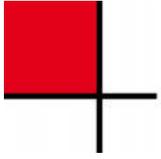
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Music, desire and affective community organizing for repair: Note for the piece ‘Le désir est un exil, le désir est un désert...’

Hubert Gendron-Blais

For L. & M.
Desire is an exile, desire is a desert ...

Never an individual exile, never a personal desert,
but a collective exile and a collective desert.
Gilles Deleuze and Felix Guattari, *Anti-Oedipus* (1972: 452)

This note is part of an assemblage of which the main part is musical. If, as Nietzsche (2003: §6) puts it, music doesn't need any extra-musical material to acquire meaning, this text aims nevertheless to enunciate the philosophical approach underlining the piece ‘Le désir est un exil, le désir est un désert...’, and to offer few reflective elements not to explain, to define, but to go-with, to extend the piece and the meaning it opens.

Music as organizing for repair: an approach

Our epoch is overpopulated with political distress: the deep pain which echoes some striking political events, the resentment surrounding unrealized political potentials, the exhaustion provoked by the intensity of political action, and so on. A dominant approach only names the disquiet through a pathologization – ‘depression’, ‘trauma’, ‘anxiety’, ‘neurosis’, ‘psychosis’, ‘schizophrenia’... The purpose here is not to dwell on the pathology itself but to ask what kinds of affects move through the dis-ease, what kinds of symptoms can be felt, and how these phenomena share a common affective tonality. Following Peter Pal Pelbart

(2013: 54-59), a psychotherapist and philosopher who addresses transversally issues of ‘mental health’, art and power, we might describe political distress as ‘a particular vertigo swirling negation and passivity’: there is a breakdown, something doesn’t operate properly, and this sagging comes down in various states of being, from isolation/exclusion to acute spleen, from various self-destructive practices to harmful conflicts. These kinds of states can be understood by those who have been profoundly deceived by a political context, experimenting moments of backlash, ‘failure’, or inertia, like this comrade in the context of the divisions within the Russian and Ukrainian activist milieus following the end of the Maidan occupation in Kiev: ‘We no longer know what common ground can establish connections between our movements, especially at the moment we need it most’ (Liaisons, 2018: 43). This is the kind of tonality that this contribution attempts to unfold.

This political affect is socially produced, even if some social climates are more prone to generate these catatonic states, which transversally affect mind and body. The social production effectuated by what Guattari (1989: 70) calls the Integrated Global Capitalism¹ – particularly in its current reactionary state –, manufactures the ‘sick individual’ through diverse operations of subjective production, but also through operations of repression and integration. This double movement concerns every level of subjectivity, including feelings, perceptions, schemes of action, affects, thinking: it determines the modes of relation with the world until the unconscious (Guattari and Rolnik, 2007: 56-61). A perspective that slightly – but crucially – shifts the issue of political distress, which first appears as the production of a subjectivity detached from its capacity to feel-act, to intervene sensibly in the world in a way that couldn’t be reduced to the recognizable and valorizable individual. For Bernard Aspe (2006: 190-191), following Gilbert Simondon, this link between action and emotion is exactly what has to be *repaired*. Yet emotion, for Simondon (1989: 110), has to be understood as a relation to the pre-individual, and the pre-individual makes us enter in the field of affect².

Beside the production of a detached subjectivity, the repressive-integrative dimension of capitalism implies a forced interruption of a movement of desire, the constraint stop of a process of singularization, or its continuation towards a

1 For Guattari, far more than an economic system, capitalism is a gigantic machine of production of culture, science and subjectivity that tolerates only the modes of expression and valorisation that it can normalize and integrate.

2 Affect moves through, it groups into tendential relation not individual feelings but pre-individual ones, tendencies (Manning, 2013). In that sense, political distress, as a rupture of the link between emotion (relation to the pre-individual) and action, is really an affective problem.

void, its capture to an imposed *telos* (Deleuze and Guattari, 1972: 103-105). Maintenance, in that sense, could be understood as the re-enactment of a process of desire, the care for that capacity to affirm a singular becoming not limited to the existential options proposed by the capitalist social production.

Because if political distress is produced socially, the process of restarting the decoded flows of desire doesn't imply any return to an individualized self to take care of, as promoted by liberal therapeutics, but must pass through a new form of collectivity. Since political distress is an affective problem, the processes of repair it calls for must also be conceived on the affective level. And since affect is essentially collective – it tunes to a multiplicity of forces, connects to an ecology before it crystallizes into an individual (Manning, 2013: 27) – the affective process of repair calls for an *affective community*. This mode of community is perpetually in movement, not necessarily based on identity or shared interests, but on the density of what circulates between the beings that compose it³. Such a collective continually tries to maintain 'a different interaction between the singular⁴ and the common' (Pelbart, 2013:14):

The community would have a function of relief, a balm, almost as a protection against unbearable solitude, while at the same time, solitude as a protection against the unbearable weight of the collective. Perhaps what is most difficult is to think about escape and the collective together, the collective itself as a line of flight, the line of flight as a collective. (Pelbart, 2013: 21)

This movement between community and singularity appears to be a complex game, which needs to find its own rhythm. This rhythm shouldn't be confused with a back-and-forth between the individual and the society: it is rather a durational modulation among different layers of experience, the taking-form of a movement, and its variation between different degrees of speed, of proximity and distance, of contrast.

3 These communities are as intensive as they are evanescent, without pre-established belonging. In this sense, there is never *a* community; *there is* community. That community in movement always has a strong political dimension, even when it doesn't occur in a political event or group *per se*. On the other side, all the political communities are not affective in themselves, even if affect plays a crucial role in the formation of every community. Nonetheless, there could be moments of affective community circulating in every political community, even the more reactionary ones (cf. Gendron-Blais, 2016).

4 'Singular' is understood here as a process of singularization, which implies the articulation and the agglomeration of connections at the infra-individual (systems of perception, affect, desire, ideation) and the extra-individual (economic, social, ecological systems) levels to elaborate a (singular) way of living (Guattari and Rolnik, 2007).

In that sense, if, following Ultra-red⁵, we understand organizing as ‘the formal practices that build relationships out of which people compose an analysis and strategic actions’ (Ultra-red, 2000), out of which they take on their common condition, then organization is deeply affective and experiential (Manning, 2013: 6). Organization as an active substantive – a ‘it’s organizing’ – concerns the elaboration of the assemblages producing subjectivities able to feel-act in the world. In that sense, the process of organizing implies to share a common perception, at any level, and act from it (Invisible Committee, 2014: 11). But this processual ability to make-consist and share a common perception of the situation, which is crucial for creation and autonomy, is often contented and even attacked by the productive-repressive apparatuses of capitalism (Guattari and Rolnik, 2007: 66). And that’s why it has to be repaired and sustained through various singular and collective processes. This mode of organization places the issue of maintenance on the micro-political field, blurring the limits between political economy and desire (libidinal) economy: because the economics of maintenance of the moving process of unconscious desires is the site of a crossing of social, technical, existential, machinic issues (Deleuze and Guattari, 1972: 456-467). Maintenance as the preservation of the means to share a collective power able to dissolve the feeling of fighting against the world alone, a set of techniques to sustain the living force of affirmation amongst the ruins, and to restart it together when halted by capital.

Music is one these set of techniques. Since political distress is one of these charged troubles exceeding the sayable, and since it is often lived as something barely palpable through any discursive practice, music could play a crucial role to sustain the process movement of desire through its capacity to render perceptions that language is unable to carry. Music, here understood as a manner to draw attention and to organize the sound bodies⁶ emerging from the surroundings, is a way to access the ineffable dimensions of intensity affecting beings and their environment. Through these extra-linguistic capacities, music could then reinforce life movement, exercising, as Nietzsche (2003: §21) affirmed, a true healing function.

5 The Ultra-red collective, founded in 1994 in the context of the AIDS activism, uses sound-based research that engages the organizing and analysis of political struggles through the acoustic mapping of contested spaces and histories (Ultra-red, 2000).

6 The concept of sound body is first used to avoid the more standard term of ‘sound object’, which implies an objectifying relation to sound, occulting its operative, active dimension: the actualized sound is not only the result of a production, it is productive, it *makes* something. The ‘bodying’ of sound also underlines its materiality and its deep relation to perception.

But this ‘healing’ shouldn’t be associated with the utilitarian use of therapeutic practices who seek to reinstate the unity of the Self and that reduces the difficulties experienced to the psychological problems of an individual. Some approaches of music therapy for instance mobilize a whole lexicon of personal goals and functional individuals that seems to exclude the importance of the relational field and the environmental context, producing a depoliticization of the issue of political distress⁷. One of the main problems with this approach is that it considers that the constitutive heterogeneity of every living being is something that has to be *fixed*, corrected, rather than something that have to be sustained, taken care of :

neither men nor women are clearly defined personalities, but rather vibrations, flows, schizzes, and ‘knots’. ... For everyone is a little group (*un groupuscule*) and must live as such—or rather, like the Zen tea box broken in a hundred places, whose every crack is repaired with cement made of gold (Deleuze and Guattari, 1972 : 434-435)

The multiplicity that inhabit each one of us knows subtle changes, different connections with the multiplicities of the outside, and the mobility between all these parts, the consistency required for the parts to hold together, is a subtle game that needs full attention, and sometimes repair.

In some extent, however, the process of repair is paradoxically related to a gesture of cutting, a breaking. What has to be broken is of course not the singular being experiencing political distress, but the so-called ‘normal me’ and the personal coordinates from which it results. Because such a cut opens a breach, through which pre-personal singularities are liberated and desire could flows since these are precisely what is contained by the capitalist axiomatic and its various mechanisms of repression of desire (Deleuze and Guattari, 1972: 434-435, 458).

Music can actively participate to that breaching of the capitalistic production of subjectivity, by provoking an intensification of the drives that generates a divestment of the self: ‘Only with reference to the spirit of music do we understand a joy in the destruction of the individual’ (Nietzsche, 2003: §2, §16). What remains from that destruction are singularities and collectivities: singularities, since the transindividual character of music creation accentuates in a creative and affirmative way the differentialization of the becomings that characterizes the process of singularization refusing the capitalist subjectivization (Guattari and Rolnik, 2007 : 67). Collectivities, since the affects

7 ‘Music Therapy is the clinical and evidence-based use of music interventions to accomplish *individualized goals* within a therapeutic relationship by a credentialed professional’ (American Music Therapy Association, 2018; author’s emphasis).

produced by music have a transductive⁸ potential that cuts the bodying towards the collective agitation of its pre-individual potential: affects are true force of attunement to the multiplicities living in, around and through us (Manning, 2013 : 28).

Yet the ‘destructive’ operations of depersonalization and the operations of care for the emerging multiplicities are in fact two sides of the same movement. And this movement is deeply productive, but its productivity is a desiring one, producing different subjectivities that are not limited to the capitalist axiomatic: this process follows its lines of flight – which leaks both the personal *and* the social – that come to crack the capitalistic social production. Music, as well as other modes of artistic expression, could play a crucial role in this productivity since it opens the way, through experimentation, to more and more decoded flows of desire passing through the *socius* (Deleuze and Guattari, 1972: 451, 454-455, 458).

Of course, this productivity of music can also be captured in the globalized circuits of consumption and recognition: its lines of flight could for instance be restrained in an exotic or spiritual escapism, and its power to switch the ambiances could be canalized to reinforce the Spectacle (as exemplified by the continuous use of Muzak in public spaces). Furthermore, music can also be operational in a majoritarian, identitarian perspective: its instrumentalization as a tool for national or even military cohesion is well known. These two limited but very actual outputs have to be considered in every reflection about the political force of music. Yet this note is not about all the things music can do, but is only an occasion to reflect on some of its very singular contributions to a peculiar process of repair.

In that sense, music can play an essential role in a process of organizing against political distress: it trains our capacity to listen to the intensive differences that vibrates in each one of us, and to listen to the surroundings; it refines our capacity to perceive, study and analyse the socio-political conditions that make themselves heard through acoustic ecologies – ‘listening is a site for the organization of politics’ (Ultra-red, 2008: n.p.) – it helps us to learn how to play with the different rhythmic oscillations between moments of community and moments of solitude. Like psychotherapist and art critic Suely Rolnik states reflecting on the work of Lygia Clark, art is an ecological stock of the invisible species that inhabit each one of us, and this ‘generous germinative life [is a] source of oxygen for the confrontation with the tragic dimensions of existence’

8 The transductive character of affect refers to its capacity to cut through individuality, but in an inventive way, creating new processes for life (Manning, 2013).

(Rolnik, 2007: 2; author's translation). Music, the art of time playing with the invisible, is well positioned to contribute to that living task. When combined with other revolutionary practices (political, analytical, etc.), it becomes a wheel to desiring machines, giving motion to the unconscious process (Deleuze and Guattari, 1972: 161-162), and connecting it with the multiple forces phasing in the surroundings. And that's what the piece 'Le désir est un exil, le désir est un désert...' modestly aims to do.

The piece: 'Le désir est un exil, le désir est un désert...'

The musical piece 'Le désir est un exil...' answers a double call: it was first composed as a gift for a friend experiencing a deep moment of political distress, taken by the disappointment and frustration to note the incapacity, for a community of struggle, to provide a support network in moments of crisis. This kind of resentment could be particularly harmful, since it affects both the singular being and the collective in a spiral of negative reactions. In the organization of the maintenance and repair of an affective community, the elaboration of a new solidarity is needed in the contemporary biopolitical context (Pelbart, 2013: 22). But this solidary resonance is far from being an easy task. A task of reparation of the capacity to feel-act singularly and collectively that the affective community is sometimes unable to sustain, and that's where trust can be hurt, where an inclination towards the others and the world can take a twisted angle.

Then, the piece answered the call of another friend who approached me to participate in a unique handicraft book made by people in Montreal to be sent overseas to that friend experiencing a difficult time. That collective gift in parcels is in itself an operation of affective community: we all shared a will to experiment around political distress that we all know, in different ways, to make that distant friend feel like she's not alone, in spite of the distance. All the contributions carried this force of affective encountering, even if some of the people participating to the project didn't know each other (and even if some even didn't know 'personally' the friend experiencing political distress at this time).

My contribution to that project found its true inspirational impulse when, during a short meeting with the concerned friend, the discussion slipped toward the force of Deleuze and Guattari's *Anti-Oedipus* in relation to issues of political distress. I then returned to the book, and was suddenly struck by that sentence:

Desire is an exile, desire is a desert that traverses the body without organs and makes us pass from one of its faces to the other. Never an individual exile, never a

personal desert, but a collective exile and a collective desert. (Deleuze and Guattari, 1972: 452)

If desire is productive, it is also what urges us to follow a creative line of flight, which implies a departure from belongings: class, family, nation, statuses, etc. But that exile necessarily passes through the desert, the body without organs (BwO) and its two faces. On one side, it is the limit of the *socius*, the end of civilized world, but that's also the place where molar organizations re-consolidate social production through the conquest of a new legitimacy (Deleuze and Guattari, 1972: 121, 155). On the other side, the desert is the plane of composition, of consistency, 'liberating movements, extracting particles and affects' (Pelbart, 2013: 91), where desiring machine produce a perpetual flow of actives forces. But this side is also a place of arid hardships, of great sufferings. Thus, through that movement of desertion through the BwO, desiring production has to keep moving, not stop in the desert, where a terrible distress could blow (Deleuze and Guattari, 1972: 155-161, 207, 228). Ambivalence of the desert.

However, that quote is also the moment of a important shift in the book: the desert, associated with the BwO, here *becomes desire* itself: not only the place where the process movement is effectuated, but the machine that allows us to traverse the desert, like if it was taking a bit of it for the road. And that's also the moment where that desertion – the 'desert-desire', which is the productive investment of revolutionary desire – appears to be deeply collective: the movement through which molecular multiplicities of desiring production are forming (Deleuze and Guattari, 1972: 454, 456). And that is the ambivalence which the piece 'Le désir est un exil...' wants to unfold, to play with: desert as the harsh site of passage, of danger and potential death of desire, but also the force of desire, full of life, even if it is often a creeping one, between the cracks.

Through delicate operations, the machinic assemblage formed by the music piece tends to let us hear the relations between things, the becoming-molecular that goes through all the aspects of reality. 'Music has this capacity to amplify the coming-to-expression of a whole ecology, to make feel the ontogenetic force of emergence of the event's qualities that is perception at its most creative and indeterminate' (Manning, 2013: 174). When bringing to perception the molecular multiplicity of material life, music becomes a technique for micro-political interventions in favour of 'a radical depersonalization for a different conjugation with the flows of the world' (Pelbart, 2013: 14). An opening to the deserts that we are:

We are deserts, but populated by tribes, flora and fauna. [...] they inhabit it, they pass through it, over it... [they designate] an event before a subject, more a collective assemblage than an individual, an intensity before a form. In short, the

most singular point; an opening for the biggest multiplicity. (Deleuze and Parnet, 1996: 11)

And that's where, through a becoming-molecular, new and deep encounters could happen: that's where affective communities could emerge⁹.

Of course, a three minutes musical piece is only a tiny block of sensation to share such concerns. But like the desert, which is the site of important rites of passage in many cultures, we should not underestimate the power of small encounters: that is often where a new process of subjectivization is produced, one

having more to do with surroundings and resonances, or distances and encounters... A subjective ecology [that] sustain the disparity of worlds, forms of life, ... rhythms, gestures, intonations, sensations, and encourage its proliferation ..., such that each singularity preserves, not its identity, but its power of affectation and envelopment in the immense [polyphonic] game of the world. Without that, every being sinks into the black hole of its solitude, deprived of its connections and the sympathy that makes it live. (Pelbart, 2013: 22)

Music could help to bring the unheard trembling in the folds of the world to those who need to hear it¹⁰, when they are struck in the arid desert on their way to exile, calling for a community to come, but that seems absent.

Good listening.

<https://soundcloud.com/hubertgendron-blais/le-desir-est-un-exil-le-desir-est-un-desert>

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9 A community that doesn't necessarily accomplish itself in the actual gathering, but that takes place in the speculative presence of an ecology of practices, in the brief and fragile coming-together – physical and potential – that could reorient the fields of living. A community that implies an attention to the micro-politics of life, and which is sustained by a belief in the ineffable, and its power of resistance (Manning, 2016).

10 The complex issues of the potential audiences and the conditions of reception for music to exercise its repair function overpass the purpose of this essay. These conditions have to be thought and elaborated differently for each situation, in a way to care for the singularity of the event.

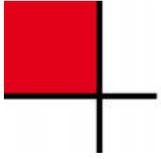
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the author

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Spelman cups: Attitudes to the past

Bridget Harvey



Image 1: Spelman Cups (2016) ceramic, mixed media. Photo: Bridget Harvey.

Technically there are five of you, but actually only four. Really you are three and one other.

None of you are really broken, but all are damaged, bar one. Small, glazed, white, glossy.

Three old, one new. Slip cast, tipped out of a plaster mould, handles moulded too, joined later.

Three of you are stained; use, time and storage showing on your bodies.

The one newer, perfect, crisp, unstained, unchipped – little story acquired yet. You sit together, deliberately spaced. A wider gap between first and third: where your missing comrade should hang.

You tell a story as a group.

First belongs to a ‘Creator, those who start anew, do not repair what already exists’: cup repurposed, plant pot now.

Second, the gap; the missing, destroyed, discarded, binned, trashed, no longer wanted, thrown away, tossed aside. The ‘destroyer wants to get rid of what’s there, not rescue it’.

Third, still used by a ‘noninterferer, those who neither help nor hinder, simply allowing decay’. Dregs in the bottom. Potentially cared for, potentially just not bothered. Not broken enough to warrant change.

Fourth, brand new, proudly branded but somehow less interesting. Unchipped, unstained, unused. A ‘replacer has figured it’s not possible to or worth it to repair your original’.

Fifth, post it note stuck on. It reads ‘chipped, might be useful’.

Belonging to the bricoleur, purpose is sensed but not seen, there but not clear.

You rest now, your place is logged, your properties acknowledged.

As a group you tell a story. If you yourselves could speak what would you say?

I feel you ask questions, querying our identities – what is my relation to the past? Is it described here? What kind of Repairer (or not) am I?

You deliberate on our actions – what do I do? How do I move forward from breakage?

You now hang in a row, in a public space, there to be looked at. You are white objects on a white wall. Potentially no one will notice you.

(Spelman, 2002:5)

Attitudes to the past: The craft and politic of being a ‘repair-maker’

Before the recent resurgence of interest in repair, Elizabeth Spelman’s 2002 cultural survey, ‘Repair: The impulse to restore in a fragile world’, was one of the only philosophical texts in the field. She explored repair both as a material practice and cultural exchange, in which she also included apologies and reparations. In her introductory chapter she suggests that ‘as varied as the activities of *H. reparans* are, they appear to be notably different from other kinds of relations to or attitudes toward the past’ (2002:5), naming these others as creators, destroyers, noninterferers, replacers, and bricoleurs (*ibid.*). I represented her five typologies with this series of cups. Spelman tells us that repair permeates both the acts of creating and of destroying, but she doesn’t, in that instance, frame repair as a political act. While repairing itself is not necessarily always done as an act of activism, ideas of activism can often be applied to acts of repair, implicitly and explicitly. Responding to Spelman’s list of ‘attitudes to the past’ (2002), I suggest a possible identity of ‘Repair-Makers’ as agent, activist and practitioner in what I describe below as the third wave of repair, where repair-making is often a choice imbued with politics, after being common practice, obligation and chore, then phased out by increased consumption and production practices. I locate contemporary repair practices within a brief history and define what I term the ‘craft of repair’; I explore the relationship between anti-consumption politics and repair before continuing to look at repair workshops as places for knowhow, identity and community building. My writing draws on my experience as co-organizer of the ‘Hackney Fixers’, as facilitator of other repair workshops, and my doctoral research (‘Repair-Making: Craft, activism, narratives’) taking place in the emergent repair scene in London, UK.

I also explore the craft and politic of repair through the figures of ‘Repair-Maker’ and ‘Repair-Seeker’. We are all a Repair-Seeker at some point. We have something that we want fixed (whether we get it done or not is another topic) and opportunities now exist to bring the broken object to a repair workshop, to learn the skills on offer, to observe or to get advice. At workshops we may shift from being a Repair-Seeker to being a Repair-Maker, temporarily or permanently. Equally while some of us might already be considered Repair-Makers – those who repair without thinking about it as repairing; those who make a deliberate choice to investigate the possibilities and potentials, histories and formal routes of repair; or others who reach for the superglue, the cellotape, hammer and nails – we are unlikely as individuals to be able to repair all types of things, and so find ourselves in the position of Repair-Seeker at one time or another. It is through the mobility of these positions and the collectivity they each invoke, I explore the craft and politic of repair, and our attitudes to the past.

A rapid history of Repair-Making

Domestically Repair-Making has been an omnipresent practice undertaken on a range of everyday objects. Much of this repair activity was phased out in the mid 20th century through women's liberation from the home, the deliberate development of planned obsolescence, neo-liberal capitalism and consumer cravings for smaller, faster, and 'the latest' models of things. At the time of writing, repair is emerging as a grassroots activity, a strand of environmentalism, a form of anti-capitalism, an agenda for forward-looking business models and corporate responsibility, but despite this it often remains a domestic or local task, initiated by the owner. I consider these to be, loosely, the three waves of repair, distinguished from one another by their actions and intentions. Where initially there was a (possibly obligatory) politic of object-care, as manufacturing technologies improved and production costs lowered, replacing broken or dated objects became easier and was marketed as a form of self-care. This has now moved on again, into a realization for some, that unbridled consumption and disposal is leading to climate disaster, and that repair can be a statement of ability, ownership and environmentalism.

Deliberate Repair-Making goes beyond 'craftivism' (a neologism of craft and activism) where new objects (frequently made from new materials) are used to promote a political message or stance (Greer, 2007). This goes beyond hacking, which is often an undoing of an unbroken object, and by intervening in that which already exists transforms it into what is needed and/or wanted. However, repair may, in some cases, be considered or discursively framed as craftivism, and similarly, there are crossovers between hacking and repairing. There are now kits for sale for craftivism, hacking and for Repair-Making – frequently differing through material intent rather than material content.

The 'Craft (?!) of Repair'

Repair-Making is both a craft of its own, and part of the craft of creating. Definitions of craft as skilled, material knowledge (e.g. Adamson, 2010) often lack political edge, focussing more on artefacts and less on the meaning of the actions of making – key in this third wave of repair is where 'craft is edgy, craft is radical, even revolutionary, and craft has the potential to remake regimes of distribution. Craft can be a galvanizing visualization of political intent' (Bryan-Wilson, 2013: 9) and a way of shaping of resistance to neoliberal practices and injustices (Greer, 2014). Acknowledgement, too, of the complexities of craft across time, class, place and intention is important where craft is described as a 'wedge' which 'polarizes and collapses theoretical positions about what making means today' (Bryan-Wilson, 2013:10).

D.M. Dooling proposed that the ‘crafts might indeed be a “sort of ark” for the transmission of knowledge about being’ (1979: xii) and is so in a number of ways: by containing or keeping afloat ideas of sharing and working together; of developing lines of thought, and of experiencing change in and through materials and understanding; and lastly a way to make ‘the questions with which we began ... clearer’ (*ibid.*: xiii). Spelman suggests the ‘wall of separation’ between creation and repair contains ‘deep fissures’ (2002: 131) as does that between repair and destruction, suggesting that when a repair is made, a ‘beloved ruin’ may potentially be broken (*ibid.*: 131). The Craft of Repair embodies these tensions, and, as a ‘wedge’, creatively reconciles, polarizes and collapses its multiple meanings – and in that it acts as an ark for skill, knowledge, change, politics, economies, intentions and questioning – repair is a way of metaphorically, financially, socially and materially staying afloat when material goods (such as precious metals in phones) and social connections can seem scarce.

The experience of change carried by craft gives it an appearance of ‘authenticity in what is seen as an increasingly inauthentic world’ (Erlhoff and Marshall, 2008: 91), where inauthenticity erodes the ability to deal with the unfamiliar, to be reflective, and to adjust to change (Ehrenfeld and Hoffman, 2013). When engaging with the Craft of Repair, coping with the unfamiliar, risk and uncertainty are essential as the needs of a broken object are ‘variable, complex and not of our own making, and therefore not fully knowable’ (Crawford, 2009: 16-17), ‘*fixing*, in a general sense, extends a yet earlier mind and method, that of the original fashioner’ (Harper, 1987: 21). Repair-Makers ‘share the aim of maintaining some kind of continuity with the past in the face of breaks and ruptures to that continuity’ (Spelman, 2002: 4).

Some Repair-Making requires deep knowledge of materials and objects (Strasser, 1999; Harper, 1987) and potentially ‘an expert is seen as someone who can equally make and repair’ (Sennett, 2009: 248), with patience (Crawford, 2009), interpretive skills (Harper, 1987) alongside a ‘cognitive and moral [disposition]’ (Crawford, 2009: 82). Some however, require little more than a roll of gaffa tape and some gumption. Both approaches can equally lead to successful repairs. Engaging with the familiar and the unfamiliar, the past and the future, the known and the unknown, the Repair-Maker, through the Craft of Repair, produces, not necessarily beautiful, but authentic, appropriate and functional outcomes.

Spelman suggests, ‘Homo Reparans is always and everywhere on call’ (2002: 2). As a human ‘wedge’, embodying the tensions of repair-making, the Repair-Maker may or may not own the broken object, may or may not be a professional

repairer or be experienced, skilled or knowledgeable about the type of repair needed, but repairs, through adaptation, customization, restoration, conservation, as choice, chore, or obligation, bring an object back to working order.

Repair-Making as anti-consumption practice

Repair has a complex relationship with consumption. In some sense, repair is inherently an anti-consumption practice, and Repair-Makers may well engage with this politic. However, the need for parts and materials often means making a purchase, and there is a small industry emerging around this. Examples might be new materials such as Sugru¹ (and copies of it, such as Kintsuglue²), or kits such as Merchant and Mills Rapid Repair Kit³, which effectively contains the same materials as most sewing kits⁴ at what could be considered an exclusive cost of £15. There is also the question of what commodities one chooses to buy, whether secondhand or new; can one purchase a repairable version of that which is needed? These are often more expensive, and thus more exclusive purchases.

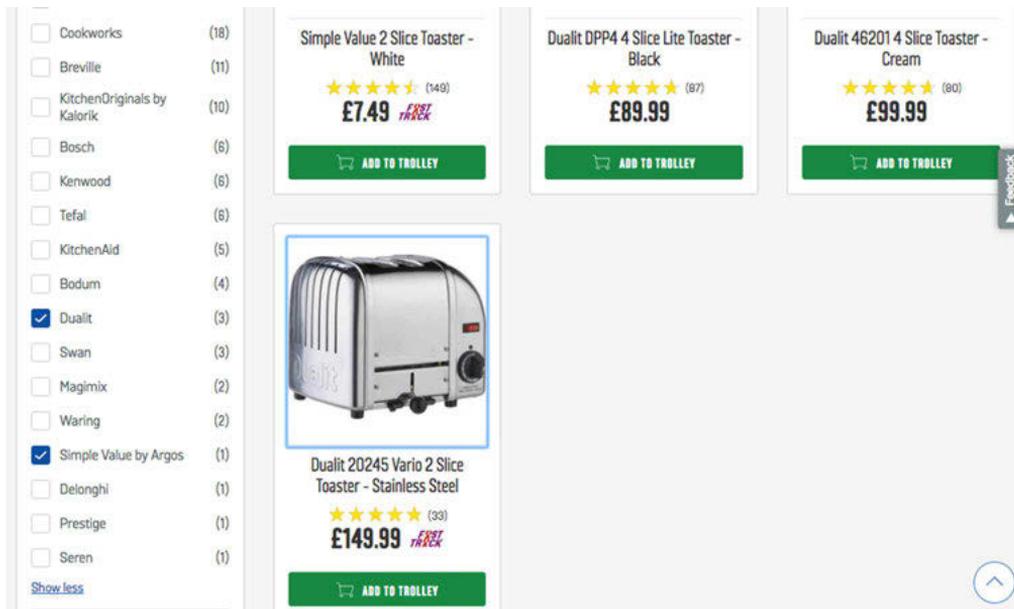


Image 2: Price comparison of not-repairable and repairable toasters on Argos website, January 2018.

1 See <https://sugru.com>

2 <http://www.loctite-consumer.co.uk/en/products/kintsuglue.html>

3 <https://merchantandmills.com/store/equipment/notions/rapid-repair-kit-3/>

4 For instance the Hemline N4305 Premium Full Small 'Sew & Go Sewing Kit'

Looking to anarchist culture, Laura Portwood-Stacer provides us with a deep discussion of motivations for anti-consumption activism as a lifestyle choice (2013). She describes anarchist practices of anti-consumption as ‘part of the fabric of everyday life’ (*ibid.*: 26); they ‘do not universally abstain from consumption ... rather they consume differently, in ways that *signify* an opposition to the kind of lifestyles encouraged by the bourgeois consumer culture’ (*ibid.*: 26, emphasis in original). Materially, this may have similarities to mainstream consumer culture, however anarchists ‘often *discursively* frame their consumption activities as contra to the overall system of consumer capitalism. This is what makes their anti-consumption lifestyles understandable *as* activism’ (*ibid.*: 26, emphasis in original) She lists anti-consumption activism motivations as; personal, moral, activist, identificatory, and social (*ibid.*).

Positioning these anti-consumption motivations in relation to Repair-Making, *moral* motivations consciously differentiate right and wrong, and form the basis of *activist* motivations. *Personal* motivations for repair may include the simple desire to not engage with mainstream consumerism, and *identificatory* motivations build identity through purchasing choices, and build community through the visible display of these choices, acts, politics and emotions – these are performed by being material expressions of being a Repair-Maker, *socially* linking one with others who share concerns. By taking a reflexive and communicative approach to consumption, choosing to consume differently (asking for parts, instructions, repairable objects), by not consuming that which cannot be repaired, by discursively framing choices, the anti/consumption of the Repair-Maker may lean towards an anarchic practice. Given form by these acts of resistance, a counter-cultural solidarity is created by, and creates, togetherness as well as non-geographic, non-physical togetherness through Instagram hashtags, tee-shirts, slogans, patches, visible repairs and efforts to change standard business practices. While some of this togetherness appears not to be very diverse (an unscientific survey of the users of #visiblemending on Instagram seems to show mostly white, female makers working on expensive clothes) my experience in community workshops is that the participants are diverse, and while the repair skills are somewhat gendered (e.g., the clothes repair is demonstrated by women, and the electronics by men) this is not definitive.

The ‘Visible Mending’ movement, where many people mend their possessions deliberately visibly, sharing and documenting these acts through hashtag use on social media creates a critical mass of #visiblemending acts. These aim to show the relationship with and the reaction to the power of contemporary consumption habits by embracing the aesthetic of repair, and, particularly on clothing, these mending acts are both slogan and sibling to the slogan tee-shirts worn by repair-makers. They point to an affinity with other repair-makers,

through the very visibility of the mends rather than readable slogans or graphics. The visible mends therefore become what Portwood-Stacer calls a ‘subtle symbol’ of ones politics (2013: 55).



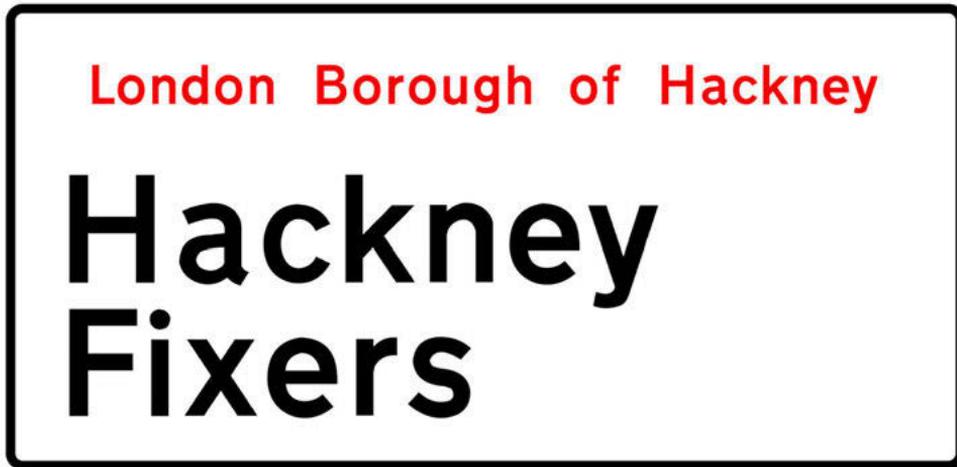
Image 3: Ugo Vallauri co-founder of the Restart Project and repair activist wearing a tee-shirt that promotes repair. (2015) Photo: Janet Gunter.



*Image 4: Blue Jumper (2012 onwards) showing visible darning by Bridget Harvey.
Photo: Bridget Harvey*

There are tensions inherent in anti/consumption practices and the politics of repair work for Repair-Makers. Repairing initiates a different route to consuming new items, but does not encourage manufacture of repairable goods or goods for repair, yet by engaging with manufacturers who embrace reparability, the act of anti-consumption becomes redundant. Wearing a visibly repaired garment is potentially a privileged choice unavailable to those who, for example, must wear a company uniform (or those whose items are not well-made enough to warrant repair or to withstand it?). Repairing clothing visibly might mean not purchasing a new garment, but repair-slogan tee-shirts are often new to the owner, printed especially. Visible repair work encourages community and signals ones politics, but in doing so might exclude others – those who don't or can't repair, who feel unable or unwilling to join that movement. A repair practice that maintains an anti-consumption stance, for example, darning a jumper with leftover yarn, might not work for another object, like a smart phone with a dead battery. Consumption, in relation to repair, requires a conscious thought process around purchasing practices, and may result in a swap, a make-do or gifted part. The repair-maker must, along with their 'attitude to the past', pay mind to the future.

Hackney Fixers: A very short introduction



hackneyfixers.org.uk

Image 5: Hackney Fixers logo (design by Dave Lukes).

Hackney, a gentrified east London borough, has a mixed set of inhabitants, long-standing, new, short- and long-term residents, coming from across a spectrum of economic incomes. Hackney Fixers are a group of four volunteers who, since late 2013, have run events in community centres and libraries across the borough. These are open to anyone with something that needs repairing, and generally the objects brought in for repairing are of everyday use. We aim to repair as much as possible on a shoestring budget and rely on the goodwill of a team of volunteers and community spaces. We accept donations and external funding, but do not require payment for access to the spaces we use or the skills we share. Hackney Fixers provide a range of tools and knowledge, and encourage participants to use them, aiming to show the do-ability of Repair-Making using common household tools and materials.

Our approach builds our connections with the area and its residents, bringing the craft-of-repair to many. Juliette MacDonald, head of the School of Design, Edinburgh College of Art, University of Edinburgh posits that ‘craft as a

communal experience functions as a form of resistance to that sense of alienation' often experienced by urban dwellers (MacDonald, 2015: 104). For her, the resulting objects from a community project may be sloppy and imperfect but the participation provided through the making experience 'demonstrate the potential for the creation of far more complex webs of meaning (social, psychological, political and cultural), providing a depth of connection achieved through the sharing of process and experience' (*ibid.*: 105). She concludes by saying 'engagement rather than a perfect end-product is the key to promoting social capital and the result is that participants become knitted into the fabric of the community' (*ibid.*: 106). To be embedded is one of the aims of Hackney Fixers – that we as a group are valued and useful in our mixed and changing community, neither owning either what we do nor the skills we share, nor limiting who we share them with.

Repair workshops: Volunteering to make repair possible

The act of volunteering can create both personal and group wellness (Pickett and Wilkinson, 2010). Our repair workshops aim to break down the dichotomy between professional and non-professional Repair-Makers by engaging with informative, exploratory and reflexive challenges, where volunteering is often a nexus point for hobbyists or tinkerers, learning and politics. In this nexus, the Repair-Maker is dependent on the Repair-Seeker for information about how the object is used and how it is to be repaired. As such, repair workshops bring people together, creating opportunity for social interactions and togetherness. The connections created are sometimes permanent and sometimes transient. Repair-Makers may meet repeatedly and build strong connections and this may be a motivation (Graziano and Trogal, 2017), as may Repair-Seekers. Alternatively, one off encounters might be had: materially, the duration of relationship is of secondary relevance as long as repair is being attempted, and knowhow is being shared.

With our open access repair workshops we aim to form a micro-economy of values, building relationships within communities: attempting Repair-Making together can become worth more than making or buying something new. Attending or volunteering at a repair workshop can become a form of activism. Repair workshops, as we run them, draw on alternative educational models with 'humanistic goal[s]' which 'distinguish learning from schooling' to show value in that learnt in and through society (Illich, 1977: 70). By sharing learning, they aim to clarify not only repair skills, but also the situation in which not having these skills continues to bind the deskilled to their (capitalist) oppressors by avoiding 'mere speech-making... and mechanistic activism... to move towards the unity of the oppressed' (Freire, 1996: 156). Hackney Fixers workshops strive to subvert

brokenness into positive, community lead, knowledge sharing opportunities. This inherently questions what Ivan Illich calls 'knowledge stock' – that learnt in formal education such as a school or university which contributes to a knowledge based class system (1977: 71) – and continues the repair discourse, while giving space for 'talking back'. Participants control how they participate (Illich, 1971), how they engage and learn (participants are present throughout the repair work, and are supported to help as much as they feel able, and to share what they feel is important about their objects), when they arrive, and how long they stay.

'Loose parts', described by Simon Nicholson as physical phenomena aiding discovery and learning through creative interaction (2009 [1972]: 5), can be found in the form of tools, materials and space for use, structure and experimentation contribute to learning activities. This is also the case with the structure of Hackney Fixers, which, while organized by a core team, is contributed to by a large group of people who are willing to share their mixed skills, and a flexible volunteer participation system where fixers step up and step back according to their wishes – there are no set hours or commitments.

Conscious choices in the third wave of Repair-Making

Repair-Makers who volunteer their aid encourage others to repair and promote repair as an active and enjoyable part of ownership. By opening objects perceived to be un-openable and showing their reparability, repair workshops also open other possibilities to those attending. Repair-Making disobeys the economic rules of growth capitalism, but, in some forms, obeys contemporary consumption principles. The potential activism of participating in repair workshops enables a questioning of what we know, what we are taught, and how we are told to behave, and so furthers the act of Repair-Making. The Craft of Repair is more than simply material, it is social and political too.

Repair practices run the risk of being re-co-opted by big business, but this does not mean that we should not repair – repair as business or service has long existed and it has long been a paid service. Now, however, it stands in the face of fast consumption and production. Choices based on anti-consumption principles help step ownership away from capitalist growth models, and potentially builds identity and activists stances, through creative construction of the self through both practices of consumption and stewardship. Consumption choices are key to both supporting the repair movement and voicing opposition to anti-repair acts.

While Spelman's examples of 'attitudes to the past' provide some understanding of what a Repair-Maker is not, here I have pieced together: an understanding of the Craft-of-Repair; an identity of a third wave Repair-Maker, along with potential

motivations for and meanings of the act of Repair-Making. Taking damaged material from a destructive to a creative place, using brokenness to reposition repair as a politic and as anti/consumption consideration, showing workshops as community and identity builder, the Craft of Repair becomes a propositional practice. The contemporary figure of the Repair-Maker demonstrates not only an attitude to the past, but also an attitude firmly rooted in the future.

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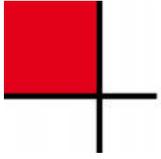
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Ease of repair as a design ideal: A reflection on how open source models can support longer lasting ownership of, and care for, technology

Serena Cangiano and Zoe Romano

The hacker ethos around repair

Last spring, a series of online newspaper and magazine articles highlighted the story of the American farmers, who were hacking their tractors using Ukrainian software bought online (Naughton, 2017). After buying tractors from the well-known brand John Deere, the world's biggest manufacturer of agricultural machinery and products, the farmers were all facing the same problem. They realized that when their machine breaks they are not only legally obliged to call Deere's customer service centre, which is the only entity entitled to *analyse* the tractor's breakdown, but they also became aware that even when the service is slow, inefficient and overpriced, they cannot do much without violating the Digital Millennium Copyright Act (US Copyright Office, 1998). This legislation rules over the way people use a host of digital devices. and amongst other things, legally restrained the farmers from suing the company for loss of profit if the software results in non-performance.

How has a tractor become comparable to a digital device? Like so many of our everyday devices most agricultural machinery now runs on copyright-protected software, which due to software limitations induced by business driven product development makes many machines difficult or even impossible to fix, even for minor maintenance upkeep. To overcome these limitations, farmers started purchasing and using an application downloadable from the website of an Eastern European software house. Together with the software, they began accessing and participating in an online forum that featured shared

specifications, thereby allowing them to acquire the knowledge needed to perform ‘unauthorized’ fixes. The same farmers became allies with independent repair shops and together collaborated in lobbying hardware manufacturers, aiming to force them to drop software-based monopolies and make diagnostic tools available to a wider range of people, like owners and local shops.

In this case, hacking practices overlap with the realm of piracy practices, where there is no empowerment of the user but rather an induced condition resulting in the temporary resolution of a problem. Piracy becomes the only way to fix the inefficiency of a business model, and to balance the relation between those who produce goods and those who buy and use them. While piracy at least offers one solution, at the same time *it prevents the possibility of redefining the very concept of product ownership because it lacks a legal framework*. In this context, ownership is something people need to fight against in order to get ‘it’ back for themselves. This is in contrast to the context of open source product development, discussed below, where openness and user-ownership is inscribed in the DNA of the product.

This battle over property has just started. On one side there are ‘prosumers’ associations, blue-collar Republicans, hackers, makers, activists all reclaiming their rights to modify the things they paid for and, on the other, big opponents like Apple, GM and manufacturers like Deere accusing them of pirating. Some successes in this property battle are being won, for example in 2014 the ‘Right to Repair’ movement made progress when the Massachusetts Right to Repair Initiative (Noonan, 2017) passed in the state's 2012 general election with 86% voter support and was later brought to the signature of a Memorandum of Understanding based on this law. This particular law commits vehicle manufacturers to meet the requirements of the Massachusetts law in all fifty states, requiring amongst other things all vehicle owners to have access to the diagnostic and repair information made available to the manufactures and also to authorized repair facilities.

It is interesting to note that the idea of ‘hacker ethics’ came to life in the same State of the first Right to Repair law – Massachusetts – as journalist Steven Levy sets out in his 1984 book *Hackers: Heroes of the Computer Revolution*. Levy describes the scene around Massachusetts Institute of Technology since the 1950s as one that fosters the belief that information-sharing is a powerful positive good, and that it is an ethical duty of hackers to share their expertise, facilitating access to information and to computing resources wherever possible, especially by writing open-source code.

Renovating the right to repair is a relevant topic in United States today and while it finds its roots in the hacker ethos and also in a sort of traditional tinkering attitude as a means of self-expression, it finally is a constitutive part of the genesis of social communities that gather around diverse practices, from car fixing to HAM radios making, from bicycles hacks to furniture manufacturing.

From do-it-yourself to do-it-together: The maker movement view on repairing

The maker movement can be seen as a novel global community that pays attention to the need of repairing technological products. It is doing so because it sits with the wider aims of lowering the barriers to technology to a wider public, from kids to elderly people, and of supporting open source design mottos such as ‘If you can’t open it, you don’t own it’ (van Abel, 2012). Since the first half of the ‘00s, the concept of ‘maker’ and ‘maker movement’ was inspired by the European hacker community, which gathered around the Chaos Computer Club in Germany in the 1990s and various hacker spaces in Europe. Yet unlike other hacker communities in Europe – that also differ from each other in both approach and general mission (Alberts and Oldenziel, 2014) – the maker movement is a global community that focuses on the development of new attitudes towards making things that is more based on sharing enabled by the internet and hardware.

In the same period, Dale Dougherty – co-founder of O’Reilly Media – was planning to start a new magazine: initially titled ‘Hack’, his daughter suggested the name ‘Make’, now adopted, for its connotations as a positive action and with the idea that everyone can and might like to make stuff (Corcocan, 2016). Until today Make magazine features dozens of DIY technology projects and promotes a series of local community events called ‘Maker Faires’. The magazine is also a cultural reference in that it contributes to discussions about bottom-up and open approaches to technology. In 2005, Make magazine published a list of ‘17 commandments’ that manufacturers should follow in order to make their products repairable and/or hackable under the title of a ‘Maker’s Bill of Rights’¹.

¹ ‘Meaningful and specific parts lists shall be included; Cases shall be easy to open; Batteries shall be replaceable; Special tools are allowed only for darn good reasons; Profiting by selling expensive special tools is wrong, and not making special tools available is even worse; Torx is OK; tamper proof is rarely OK; Components, not entire subassemblies, shall be replaceable; Consumables, like fuses and filters, shall be easy to access; Circuit boards shall be commented; Power from USB is good; power from proprietary power adapters is bad; Standard connectors shall have pinouts defined. If it snaps shut, it shall snap open; Screws better than glues; Docs

This manifesto contains a series of wider issues which are discussed among grassroots communities as well as policy makers. First of all, the bill addresses the issue of the large amount of electronic waste created by the inability to repair broken electronics affordably. This issue is strictly related to the induced obsolescence which is becoming a fact more than a conspiracy concept (Agi.com, 2018): the case of Apple's declaration on the programmed slowdown of iPhone operative systems (Warren and Statt, 2017) shows how technology optimization creates a conflict between the usability and the durability of a device. In other terms, finding a balance between the performance of the operating system and the duration of an old battery allows a company to save money on the implementation of repairing services, on the replacing of parts, on the updates of the product's warranties, etc. On one side, companies such as Apple save money on the implementation or redesign of their services and they keep earning from the inevitable purchase of new devices and by offering replacement services at reduced costs (Morris, 2017). On the other, consumers can only choose to fix their devices via piracy, by buying replacement parts, joining the communities of DIY fixing and/ or accessing online tutorials and instructions.

Platforms such as iFixit respond to this consumer need. iFixit have supported the growth of the hardware and electronics repairing community by proposing 'do it yourself' strategies as a solution to the lack of repair-friendly business models, namely the ones offering free repair services or official networks of repair facilities. However, we cannot state that those new internet platforms necessarily provide a sustainable and long-lasting solution to the problem. The 'do-it-yourself' approach proposed by those platforms emerges as more a pragmatic choice rather than a stable and conscious alternative: the DIY repair of electronic devices, in fact, generates the proliferation of unofficial repairing services feeding electronics manufacturing ecosystems that might not be certified as slavery-free or socially fair businesses.

For this reason, we suggest reflecting on how the DIY repair culture could be enhanced by the practices proposed by the maker movement and that by focusing on the processes of opening knowledges around technology, it could help facilitate a systemic change of technology production. We support this perspective particularly in light of the recent decisions of the US Copyright Office, who ruled that consumers and repair professionals have the right to legally hack the firmware of 'lawfully acquired' devices for the 'maintenance' and 'repair' of that device (Koebler, 2018). This new legal framework supports the

and drivers shall have permalinks and shall reside for all perpetuity at archive.org; Ease of repair shall be a design ideal, not an afterthought; Metric or standard, not both; Schematics shall be included.' (Makezine, 2006)

hacking of many electronic devices (beyond tractors) and, as consequence, we highlight the need to look at novel models for repair culture that more closely align to those applied in the maker movement.

Maker companies, by which we mean companies that produce maker-friendly technologies and products such as Adafruit, Arduino, Sparkfun, Bare Conductive, opened the field of electronics by providing user-friendly platforms that help non-experts to retrieve and buy components to create their own projects. The practice of releasing open hardware products together with their assembly instructions and bill of materials (BOM) – the list of all components used to make the product – has become the pillar of any initiative addressing the needs of the maker community. The makers' answer to the problem of repairing technological products is turned into a practice of open-sourcing both the knowledge and resources that make every product reproducible and thus repairable.

This is the beneficial side-effect of a movement practice, which is simultaneously experiencing many internal contradictions not least the interference of big tech companies, or the interaction with 'startup' cultures. In both cases, we believe that when open source approaches are applied, those interferences favoured the diffusion of repair-friendly design requirements, such as modularity, open standards and 3D printing.

In particular, 3D printing represents a key technology for repairing. Individuals can use 3D printers to print replacement parts of devices as well as to improve the parts in such a way they are less likely to break in the future (Weinberg, 2010). Moreover, printing replacement parts does not infringe, in many cases, copyright law and gives life to old devices by repurposing them through the assembly and combination of new printed parts. The impact of 3D printing on repairing is always underestimated, particularly when compared with the discourse on 'innovation' in manufacturing and how makers are seen to be the key actors in a new industrial revolution (Anderson, 2014). Thanks to makers' commitment to the development of open source and low cost 3D printers, which in some cases can print up to 80% of their own components, makers rather become the actors of a new repairing age, relying on existing legal frameworks and shared practices, rather than the protagonists of a start-up culture that sees low cost 3D printing merely as a more accessible production technology to be marketed.

What we have learnt is that increasing the ease of which things can be repaired via 3D printing should be as possible as a choice within the design process and should constitute an ideal in every project. Nevertheless, we are aware that repair-

friendly design and business models are not easily implemented, even if 3D printers are becoming increasingly accessible. We are also aware that 3D printing technologies, as a means of production and manufacture of products, are not always open source² and here lies one of the main controversies around 3D printing. We do not have space to address this specific debate here and rather turn our attention to open source approaches in design.

Open design approaches

Open design adopts licences that enable everyone to modify, build upon and appropriate a technology or a project freely (Open Design + Hardware Working Group of the Open Knowledge Foundation, 2016). When a designer or company engages with an open design approach, it means that the design blueprints are: published in an online repository; licensed under open-access terms; distributed digitally in a specific file format together with fabrication and assembly instructions. As Michel Avital explained, Open design allows the transition from 'Push models' to 'Pull models', whereas the former points to companies that push their products to customers, the latter rather create a connection with the customer in such a way that s/he demands the products and reciprocally supports the company (Avital, 2011). According to this model, products become more comparable to service platforms where repair practices and the engagement of a products users are embedded in the design (van Abel, 2012). Open design is directed toward consumers and local producers who can engage in fabrication processes that are seen as alternative to the ones of the conventional manufacturing and distribution channels (Dexter and Jackson, 2012). These processes allow making products that cannot be produced or distributed otherwise because they respond to the needs of a small group of people. In the health and care sector, for example, open design combined with digital fabrication has empowered makers and designers to release customizable and highly fixable solutions for small groups of users. One example of this type of work is 'Too Wheels', a low-cost and adaptable, DIY alternative to more expensive, ready-made sports wheelchairs. Anyone can download the blueprint of the open source wheelchair design; they can adjust that design based on unique measurements, and build the finished product from cheaper and easily available materials such as plywood, metal tubing, and bicycle wheels. The cost of the kit is €200 for a product whose performance is comparable to a €2,000 sport wheelchair. Too Wheels' design embeds the capability of being manufactured at

² RepRap and Prusa Research are successful case studies of open source solutions in the 3D printer industries, but they are competing with many other non-open source solutions.

local fabrication site, which in turn can also become a place to fix and repair it after purchase (Cangiano and Romano, 2016).

In the last fifteen years, on one side, people have been losing the right to repair their own things, on the other, thanks to the internet, they have been accessing and creating the necessary knowledge and documentation to lower the barriers, not only to repair, but to the realization of their own devices from scratch. This became possible thanks to the rise of an ecosystem of initiatives and companies such as Arduino and RepRap 3D printers, able to scale by applying open design and open hardware models as well as by using digital platforms for the on-demand distribution of small batches of customized goods. This ecosystem encourages the development of practices and the rise of new professional designers. It also represents, in our opinion, the key elements of convenient, replicable models to support the growth of the repair culture: the professional use of open licenses and the release of the documentation materials are at the core of innovative business models which entitle people to experience a world in which repairing is no longer a critical choice nor a pirate action, but a *common* use by people who buy and own a product.

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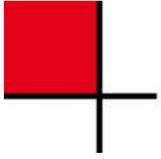
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Capitalism unwrapped

Emanuele Leonardi

review of

Coates, D. (2016) *Capitalism: The basics*. London: Routledge. (PB, pp. 210, \$25.95, ISBN 978-0-4158-7092-4).

In a compelling paper that appeared in 2007, Slavoj Žižek recounted the following anecdote, funny and disconcerting at the same time: Italian leftist journalist Marco Cicala had confessed him that after having submitted an article featuring the word ‘capitalism’, the editor had asked him whether using that term was actually his only choice: in case it wasn’t, why not replacing it with a synonymous, like ‘economy’? Although the Great Crisis that hit the world that same year partially undermined the solidity of this equation, it still takes an act of resistance to the mainstream discursive regime for explicitly disentangling what is *capitalistic* in the economy from what is *economic* in capitalism. This is why David Coates’ ‘Capitalism: the basics’ is so essential: it breaks the aura of ‘inevitability’ which has for a long time surrounded the concept (especially in the academy) and, by unwrapping it, opens up new space for critical scrutiny. In fact, the key starting point of chapter 1 (‘What is capitalism?’) is the following: ‘in the full span of human time, capitalism is an extremely new phenomenon, one that is still even now only in the process of full formation’ (5). Thus, having emerged historically through a contingent succession of disparate events, capitalism is transient: it had an origin, it will have an end (how far are we from that closing is obviously a matter of contention).

In general, Coates – who teaches at the Department of Politics and International Affairs of the Wake Forest University and is author of the recent ‘Flawed capitalism’ (2018) and editor of the influential ‘Varieties of Capitalism, Varieties of Approaches’ (2005) – provides a finely balanced guide to past and present controversies concerning the mode of production we all live in at the moment, and succeeds in the tough tasks of presenting them in a clear and engaging fashion. As a didactic tool for teaching, I found this book extremely thorough and I would like to underline from the very beginning the usefulness of the glossary which closes the volume.

In this review I will critically discuss what I consider the main achievement of the book, the extraordinarily accessible chapter 2, titled ‘Capitalism from above’; and its principal shortcomings, the interpretation of 1968-1973 social unrest in chapter 3 (‘Capitalism from below’) and the excessively linear connection between classical liberalism and neo-liberalism, established in chapter 4 (‘Capitalism in contention’). As a methodological remark: the disagreements I am going to explore are not due to the introductory nature of this book – their roots can be easily found in Coates’ more in-depth research¹. My point is simply that this important introduction to the analysis of capitalism may have benefitted from including some general reference to research agendas which are, instead, not even mentioned.

Before I begin my analysis, however, let me report the very fitting definition of capitalism Coates provides as a starting premise:

Capitalism ... is an economic system in which the vast majority of goods and services produced are produced to be sold – and sold for a profit. People do not go to work in capitalist economies, as they have in many differently organized kinds of economy in the past, in order to produce things they themselves immediately consume. They go to work in capitalist economies in order to make things that are then sold to others. They also go to work because that is the only way in which they can earn the money that they need in order to buy things they require but now no longer make themselves – to buy things, that is, that are made by other people. In an economy run on capitalist lines people sell their own labor power, the better to buy things made by the labor of others. Or to put it more technically: *capitalism, when fully developed, is best understood as a system of generalized commodity production driven by the pursuit of profit and based on free wage labor* (based on labor, that is, that is provided in exchange for a money wage). [4; emphasis in the original]

¹For a comprehensive overview, see <https://www.davidcoates.net/>.

Varieties of capitalism

After having devoted a few detailed pages to the emergence of modern capitalism, Coates explores the internal differentiations of the concept both diachronically, by providing a series of alternative periodizations of capitalist development, and synchronically, by comparing different models of capitalist economies within a single stage (roughly from the the end of WWII to the collapse of the Soviet Union). As for the first point, Coates distinguishes between scholars focussing on the size of companies and the structure of their management – thus, we would have an inceptive ‘proprietary capitalism’ followed initially by ‘managerial capitalism’ and eventually by ‘collective capitalism’ in the 1980s – and scholars privileging the changing nature of the government-business relations – so that a ‘state monopoly capitalism’ in the 1980s would be preceded by ‘monopoly capitalism’ and, further back in time, by ‘liberal capitalism’. One particular stream of thought Coates correctly highlights is the French Regulation school, whose discriminating criterium is labor organization, hence the timeline is split into ‘pre-Fordist’, ‘Fordist’ (1945-1973) and ‘post-Fordist’ forms of capitalism. Here labor is organized according to a semi-automated production system ‘where the viability of firms requires both high productivity and output on the supply side and reliable and growing number of consumers on the demand side’ [170 (Glossary)]. Thus, Fordism is defined by the *assembly line* as fitting metaphor for the whole society: the problem is no longer to produce enough commodities to accommodate all needs, but rather to create markets large enough to allow the full sale of the output. Consequently, higher wages, mass production, social moralization and substantial standardization are the key elements of such a model, as Henry Ford himself clearly explained:

I will build a motor car for the great multitude. It will be large enough for the family but small enough for the individual to run and care for. It will be constructed of the best materials, by the best men to be hired, after the simplest designs that modern engineering can devise. But it will be so low in price that no man making a good salary will be unable to own one – and enjoy with his family the blessing of hours of pleasure in God’s great open spaces ... Any customer can have a car painted any color that he wants so long as it is black. (Ford, 1922: 45)

As for the second point – synchronic variations of capitalism – Coates focuses on the post-WWII period where three paradigmatic models are detectable: market-led; negotiated or consensual; state-led. Unsurprisingly, the United States are the epitome of the first model, in which private companies are free to raise their capital in open financial markets and to decide how to invest it according to short-term profit motives. In this capitalism, workers’ social protection and state involvement in economic management are limited. The negotiated or consensual

model is exemplified by Sweden (and, to a lesser extent, by West Germany), where the state, although not an extremely interventionist one when it comes to controlling capitalist accumulation, entrenches a set of solid workers' rights and welfare provision which entitle official unions to influence the labor market and to have a say in industrial decision-making. Finally, the third model has been historically implemented in Japan, where investment decisions belong on paper to private companies, but are actually only taken under close supervision of public agencies through administrative guidance and bank leadership. Unions are generally excluded from participation to the economic process, but some sectors of the labor force are tied to firms by means of company based welfare provision.

Coates' presentation of these varieties – and others, most notably Esping-Andersen's distinction amongst liberal, social democratic and conservative capitalisms, based on their different degree of commodification of welfare services – is precise, clear and engaging. I particularly appreciated the way he discussed how historical changes (e.g. the dissemination of ICTs as driver of productivity growth and the enhanced international flow of capital) and geopolitical transformation (e.g. the rise of China as the world's leading manufacturing economy) made an updating of such classifications necessary. Conscious that 'there is no automatic fit between economies organized on capitalist lines and political systems organized on democratic ones' [133], Coates aptly conceptualizes a new, hybrid model of capitalism, defined as networked or *guanxi* and experimented in China, that combines in unprecedented fashion communist political rule with capitalist economic practice.

Interpreting the rise and fall of Fordism

After having critically described how capitalism varies over time and space, Coates introduce both point of view and material experience of the working class, conceived of as a social agent who only lives in capitalism and yet constitutively does not share capitalists' interests. Convincingly, Coates frames working class agency according to the historical periodizations discussed above: in early capitalist conditions, laborers' activism responded to an 'agenda of *representation*' [62], namely a set of struggles (rarely victorious) to have their right to claim a specific *class interest* to be counterposed to that of local employing classes. These struggles took two main forms: economically, they aimed at improving wages and working conditions; politically, their main goal was the right to vote (first for white male workers, then also for women and people of color).

From a world-history perspective, Coates argues that the first half of the XX century showed a tripartite trajectory of such agenda of representation: initially a general challenge to capitalism, whose apex was 1920, when ‘the world did literally seem to stand on the threshold of a socialist transformation that would be history’s response to the immiserization caused by capitalist industrialization’ [64]. Subsequently, an isolated revolutionary failure represented by the aftermath of the Bolshevik Revolution, when ‘the defeat of the Russian working class, by the party ostensibly created to lead and represent it, [did] immense damage more generally to the cause of working-class emancipation on a global scale’ [66]. Finally, as a reasonable response to the horrors of Fascism in the 1930s, ‘employing classes in each core capitalism emerged from World War II faced with the need to accommodate working-class demands for industrial recognition, and for political and social rights’ [66-67].

In this new context, which French historians refer to as the ‘glorious thirty years’ (*les trente glorieuses*) and Coates labels ‘golden age of capitalism’ [68], two main tendencies are at play. A negative one: the widening of income inequalities between First World economies and Second and Third World ones; and a positive one: the narrowing of income inequalities within the core of the world system. This means that the controversial notion of the *progressive side of capitalism* is both historically proved and politically partial. That said, Coates is right in affirming that, both in terms of living standards and of social participation, the experience of core indigenous workers’ was significantly improved with regard to the proletarian condition of capitalism’s first generations.

What is less convincing, in my opinion, is the interpretation of the new phase of laborers’ activism, one that we may define as agenda of *implementation* or *use*. In the new situation the key question was no longer how to organize to win rights, but rather ‘how to fully exploit those rights once won’ [71]. It is worth quoting Coates at length:

While the post-war ‘golden age of capitalism’ lasted – and it lasted for each major industrial capitalism until 1973, and then peeled away progressively for each ... – industrial and political moderation was the order of the day. A generation of workers at the core of the system experienced steadily rising living standards, job security and enhanced welfare provision, and responded accordingly. Among those workers, the predominant industrial response was one focused on the local achievement of better wages and conditions, and the predominant political response was one marking a retreat from more grandiose schemes of system change. The predominant overall response, that is, was a combination industrial militancy and growing political conservatism ... At the height of the post-war boom, workers in much of the Western Europe struck for a resetting of the class accord (between 1968 and 1973) – a resetting that called into existence what we

would now recognize a set of fully developed welfare states. But once that new architecture was in place, the pressure of organized workers for its extension weakened and their interest in socialist politics. [72]

Seen from my perspective – that of a person who is Italian and has lived in France for a while – claiming that in 1968-1973 the working class was active in unions but politically conservative is very surprising. Of course it is true that for First World's laborers the wage-form acted not only as an instance of discipline, but also as a driver of citizenship. However, many workers decided to walk the other way and, instead of 'striking a deal' with capital, so to speak, chose to resist the wage-form as such, especially but not exclusively by demanding a shortening of the work day. In Italy, precisely in the 1968-1973 time-window, there was a truly huge amount of industrial strikes, characterized by a new social composition and a growing independence of militants from union bureaucracies. This shift is nicely captured by Harry Cleaver (2012) in relation to the American context:

As time passed a new generation of young workers entered the labor force, a generation that not only expected to see wages continue to rise, but one that wanted more free time in which to make use of higher wages. These kinds of conflicts increasingly ruptured the whole set of mediations that had played a key role in stabilizing capital-labor relations in the Keynesian period. Not only did the demands for less work challenge the ability of the wage relation to reflexively define people as workers, but by fighting and often bypassing the official union structures, these struggles ruptured the carefully crafted syllogistic mediations that had been put in place to control the rank and file of industrial labor. In all of this labor became less malleable, hierarchical divisions based on race and ethnic divisions were overcome and the role of work as social control (abstract labor) was undermined.

So, the reason why in 1968-1973 the working class lost interest in socialist politics is not only to be found in a (neo)liberal counter-attack; most importantly, the new working class realized that the socialist dream – which, just as the capitalist one, was predicated on the *productivist nexus* (Offe, 1992) of higher labor productivity and faster economic growth – was not so seductive after all. These young workers then struggled simultaneously against capitalism and against socialism, which is to say against the centrality of the wage-form as the pillar of societal mediations.

Did they win? Not at all. That the 1968-1973 social movements were defeated is doubtless: none of their ultimate goals (social justice, gender equality, ecological compatibility of production, autonomy from capital's objectives, etc.) was achieved. The collapse of Bretton Woods (1971) and the first Oil Shock (1973) restored the balance of power firmly on the side of capital. Even worse, the wage-growth dyad ended up losing the positive side of its (pale) 'progressivism':

instead of pushing for higher profits, tendential full-employment and rising living standards (though at the expenses of weaker economies), neoliberal capitalism has been growing *by* deepening social inequalities.

All this notwithstanding, it is crucial to acknowledge that revolt for what it was – an *experimentation in life beyond class compromise* – because the way in which one interprets that period deeply influences the definition of what is *politically desirable* today. Assuming no one would disagree, Coates concludes his book by indicating the twofold task before us all: ‘a new social settlement ... and the next technological fix that can stimulate a significant rise in the productivity of labor’ [142]. This formulation takes for granted three elements which do not necessarily go hand in hand: a) that capitalism is the only game in town at the moment; b) that no radical alternative to capitalism is to be looked for or practiced; c) that the wage-form (which once contributed to regulate the capital-labor link) is the only political terrain for the new social pact. That a) is a reasonable postulate, no question. However, both b) and c) would have deserved a more thorough examination, given the unprecedented challenges capitalism is facing today.

Consider, first, the ecological crisis: Coates is hopeful that capitalism can incorporate the environmental limit not as an obstacle but as driver of growth and concludes that ‘if it cannot, the old adage of “don’t drink the water and don’t breathe the air” will become a debilitating reality for more and more of us’ [165]. Regardless of one’s opinion about the compatibility of capitalist accumulation and planet’s health, it remains unclear why the only alternative to green capitalism needs to be a catastrophic scenario. There are now plenty of discussions about degrowth (D’Alisa, Demaria and Kallis, 2015), both in leftist circles and in the academy: acknowledging them would have broadened the scope of the book without harming Coates’ legitimate preference for a newly designed Keynesianism.

A similar reasoning applies to the possibility of a social settlement for the 21st century: is the wage-form really the only way to progressively connect higher labor productivity and faster economic growth? Given the dramatic rise of *working poor* in advanced economies – an unprecedented connection, that is, amongst high unemployment, low wages, labor market deregulation and a longer work-day – many activists and academics are exploring the feasibility of a basic income as the tool for social stabilization (Fumagalli and Lucarelli, 2011). Again: it is absolutely legitimate to prefer a job guarantee, but a mere reference to this issue would have sufficed to make more comprehensive an already detailed introduction to capitalism.

Interpreting the rise of neo-liberalism

In chapter 4 Coates abandons the historical/economic sociology perspective he had previously implemented to assess capitalism from a visual angle based on political theory. He selects and describes three major intellectual traditions: classical liberalism (particular emphasis is devoted to the figure of Adam Smith), Marxism and social reformism (with John Maynard Keynes chosen as leading actor). In order to connect this tripartition with the above-mentioned working-class agenda of representation, it would be possible to see Smith as the challenged theorist of pre-Fordist capitalism, Marx as the inspirer of the eventually failed revolutionary strategy, and Keynes as the champion of social democracy, hence as the key figure to turn to for the implementation of the new social settlement.

I found this historical interlinkage both illuminating and effective. I particularly appreciated the balanced way in which Coates discusses Smith's notion of the invisible hand. What left me much less convinced is the excessively linear connection he established between classical liberalism and neo-liberalism (as advocated by the likes of Hayek and Friedman). Again, a long quote can be useful:

The classical liberal view of the world has a powerful optimism written into it, which has long been part of its appeal. It is an optimism about the rationality of individuals and their basic ability to benefit everyone by simply getting on with their own lives; an optimism that history is the story of wealth creation and cultural progress if people are only left free to do their own thing; and an overwhelming optimism that markets are the great clearers and coordinators of economic life ... Faith in markets was particularly strong in the Victorian period of industrial supremacy; and that faith returned on a grand scale in both the United Kingdom and United States in the decades that followed the stagflation of the 1970s – a stagflation that ended the post-war growth period based on Keynes' writings. Indeed the potency of the 1980s turn in public policy back toward monetarism, privatization and market deregulation – and the associated rediscovery of the writings not just of Smith but of later liberals such as Friedrich Hayek and Milton Friedman – is an important indication of what is undoubtedly a more general truth here. Namely that this classical brand of liberalism needs to be understood not simply as one of the earliest and most coherent responses to the rise of capitalism, but also as one of the most all-pervasive, influential and tenacious of all the responses that were to come later. [88-89]

I believe there is nothing to object about the faith in markets constituting an element of continuity between liberalism and neo-liberalism. An exclusive focus on this particular issue of political economy would actually justify an emphasis on what is *liberal* in neo-liberalism. However, the *neo* part is equally important and, in my opinion, not sufficiently developed in Coates' book. To properly grasp its character of *social experimentation* I think it is necessary to interconnect it with

so-called *governmentality studies*, namely a Foucauldian framework aimed at analyzing neo-liberalism as a political rationality (Burchell, Gordon and Miller, 1991). Such a framework stems from a shift in emphasis from the liberal centrality of the notion of *exchange* to the neoliberal reliance on *competition* as a generalized principle of formalization (Dardot and Laval, 2014). This shift implies a profound modification: whereas liberal governmentality incorporated the social mediation of economic interests as expressed by different actors, neoliberal governmentality engenders the ‘extension of economic analysis into previously unexplored domains’ (Foucault, 2010: 219).

Similarly, and closely linked to the peculiar defeat of 1968-1973 social unrest, the historical form of social mediation changed: whereas liberal governmentality was marked by the centrality of *wage* as a social institution (as a recognition of class alterity and its management through a compromise: the ruling class gains social peace by conceding consumption-based integration to the working class), neoliberal governmentality relies on the putative equality of individuals/enterprises who struggle to better valorize their *human capital*. By highlighting the pervasive nature of such a transformation, Massimiliano Nicoli indicates the kernel of neo-liberalism in the twofold process of ‘companies’ governmentalization and state’s managerialization’ (Nicoli, 2015: 173).

The first aspect concerns neo-liberalism as a specific form of *production of subjectivity*, based on a new approach to productive factors, as developed by the so-called Chicago School in the 1960s and early 1970s. This group of American economists and philosophers (including Milton Friedman and Friedrich Hayek) revolutionized their research field through the notion of *human capital*. Their main goal was the generalization of market relations to the totality of social spheres. This theoretical effort generated significant intellectual innovations, with an economics-based understanding of crime, family, marriage, capital punishment, and so on. However, its main tenet is a *different view of labor*: this is no longer the irreducible ‘other’ of capital, but rather one of its various possible forms. This peculiar human capital is composed of previously overlooked ‘assets’ such as education, professional experience and mobility (but also language, affect, care).

According to Foucault’s reading of Becker, the procedure whereby labor becomes defined as human capital represents a relatively straightforward process: individuals work for a wage and, from their perspective, that wage is income; whenever income gets conceived of as the product or return on capital, then it proves possible to define labor *as* capital; since such labor is inseparable from its bearer, then it is laborers themselves that end up conceived of as enterprises. Thus, from this perspective, ‘the worker himself appears as a sort of enterprise of

himself', or as an 'entrepreneur of himself' (Foucault, 2010: 225-226). Thus, in Foucauldian terms, human capital is not so much an economic category but rather a governmental device attuned to neo-liberalism as a political rationality.

The second relevant effect of the shift in emphasis from exchange to competition derives from the necessity of constant state intervention not *on* the market (to fix negative outcomes or unexpected side-effects), but *within* its conditions of possibility (to structure reality according to its needs). Rather than a detached referee supposed to supervise the rules of the market-game, what is now needed is an *interventionist governmentality*, a proactive political entity whose task requires incessantly re-creating the material conditions of a given society according to competition.

As Foucault summarizes, in neo-liberalism 'one governs for the market, not *because of* the market' (2010: 121). In other words, what needs testing is the capacity of a market economy based on competition to shape the state and reform society. Competition, therefore, becomes a social model centered around inequality (as opposed to the crucial role of formal equivalence in a system structured around contractual exchange). What in classical liberalism was an indirect separation between the political sphere (state) and the economic sphere (market) gets substituted in neo-liberalism by a mutual interference.

Such interference, along with the new approach to productive factors I just discussed, would have obvious impacts on Coates's twofold task of enacting a new social settlement and of boosting labor productivity (or should I add 'human capital' productivity?) in order to regulate capitalism once again. Sure, it is possible – well, let's even say probable – that Coates would consider this Foucauldian approach problematic if not plain wrong. But since the field of governmentality studies has been quite influential in political theory for almost three decades, I still believe that a reference to it would have turned *Capitalism: the basics* into an even better introduction to such a pivotal issue.

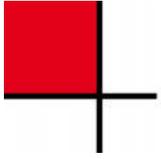
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Seduction by contract

Jeroen Veldman

review of

Bar-Gill, O. (2013) *Seduction by contract: Law, economics, and psychology in consumer markets*. Oxford: Oxford University Press. (HB, pp xvi +280, £30.49, ISBN 978-0-19-966336-1).

In this accessible and well-structured book Bar-Gill takes a close look at the credit card, mortgage, and cell-phone markets. He shows why contracts in these markets look the way they do, what is wrong with them, and what the law can do to help. Providing a dearth of examples Bar-Gill shows in a detailed analysis how in these three markets externalities, asymmetric information, and misperception lead to biased estimates on the part of customers. This analysis provides the basis for an interesting critique of the behavioural assumptions of the contracts in the markets he studies, and a broader critique that the way contracts in these markets function exhibit deficiencies that may well hurt overall social welfare. However, on the basis of the material that he discusses, it may well be argued that the critique he provides is too limited in a number of ways.

The first way in which his approach is too limited is that he ultimately frames his critique in a technical malfunctioning of the market. The main argument developed in the book revolves around the assumption that contracts in the credit card, mortgage, and cell-phone markets do not adequately reflect the products and conditions offered. As a result, competitive forces will work to maximise the perceived, rather than the actual benefits of a product. This can lead to 'market failure' [16] because it hinders effective competition. The implicit underlying belief is, therefore, that the market principle must be helped to provide its

salutary work. This underlying belief may explain why the assumption seems to be that the conditions for the contractual relationship in these markets can be optimized through technical fixes and why suggestions for reform focus specifically on what the law ‘realistically’ can do to help, such as providing the basis for better disclosure regulation and the expansion and disclosure of product-use information [249] in order to help consumers shop for the best deal [3]. This underlying belief may also explain why the framing of the problems typically focuses on the inefficiencies embedded within the agents themselves, e.g. when Bar-Gill speaks of ‘less sophisticated’ customers [249]. Similarly, it may explain why the focus of the recommendations is ultimately on the provision of workarounds that will help to deal with the imperfections of such less sophisticated economic agents, rather than on the construction of these contracts and these markets.

The ongoing belief in overall market rationality and technical fixes to support this market rationality is not supported by the material provided in the book, which provides the basis for a more critical analysis. The examples provided of the contracts in the three markets shows clearly how customers with less intellectual or financial means have less capacity, including access to advisers, to help them navigate the complexities posed by the contracts in these markets. Moreover, the analysis provided by Bar-Gill shows how these customers do not necessarily have access to the contracts that are targeted at customers who could be deemed more ‘adequate’ market participants. Bar-Gill notes how, under these conditions, more options and increasing complexity of contracts can actually lead to less meaningful choices and impose regressive distributional effects. Moreover, he shows in some detail how contracts in these markets are explicitly produced to exploit the ‘inadequacies’ of particular types of customers (e.g. the deliberately unclear long-term conditions of subprime mortgages); that demand for such types of contracts is artificially inflated for those particular types of customers; and that those customers have different access to information and to different types of contracts than other types of customers in those markets.

Under these conditions, it can well be argued that the use of such contracts, the construction of markets on the basis of such contracts, and the regressive effects of these contracts and markets are not accidental outcomes of a malfunctioning market mechanism. Rather, on the basis of the material provided in the book it becomes quite clear that these contracts and markets explicitly function on the basis of continuing unequal access to types of contracts by different classes of customers. In this framing, maintaining a segmentation of classes of customers and making optimal use of the deficiencies attributed to these different classes of customers is not accidental, but is central to the constitution of these markets.

The idea that the strengthening of market mechanisms will solve the issues, therefore, merely detracts from the underlying problem.

The material provided in the book thus provides the basis for a more comprehensive critique than the author is willing to acknowledge. Rather than the supposed ‘seduction’ exhibited by particular kinds of contracts on deficient economic agents, it is the way in which markets are constructed to sustain a particular political economy that invites the use of deficient types of contracts on the basis of a segmentation of classes of customers. By extension, it is not an absent market mechanism that must be brought back in and strengthened to respond to these deficiencies, but rather political and legal economic institutions that are able to constrain the use of deficient contracts in malfunctioning markets. The book thus provides an implicit basis for a deepening of the critique of contract and contractual relations and central assumptions in behavioural economics. To develop this critique, however, it should be broadened to involve a wider assessment of contractual relations and markets, for instance by departing from the perspective of real-world actors, rather than ideal-type actors (Foucault, 2008; Ghoshal, 2005; Perrow, 1986; Sen, 1977).

In sum, *Seduction by contract* is an interesting book because it provides a number of relevant and well-documented examples of markets in which the use of specific types of contracts provides the basis for regressive distributional effects. However, the analysis of the material provided could be significantly expanded upon by providing a richer theoretical grounding and by applying a more elaborate critique.

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