

Repair Matters

Valeria Graziano and Kim Trogal

Published PDF deposited in Coventry University's Repository

Original citation:

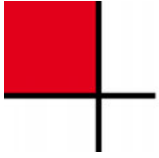
Graziano, Valeria, and Kim Trogal. "Repair matters." *Ephemera: Theory and Politics in Organization*, Vol 19, No 2 (2019). Pp. 203-227

<http://www.ephemerajournal.org/contribution/repair-matters>

ISSN: 2052-1499

Publisher: Ephemera Editorial Collective

Published under a [Creative Commons Attribution Non-Commercial No Derivatives license](#)



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 files 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.

references

- Barca, S. (2017) ‘The labor(s) of degrowth’, *Capitalism Nature Socialism*: 1-10. [<https://doi.org/10.1080/10455752.2017.1373300>]
- Bastani, A. (2015) ‘We don’t need more austerity, we need luxury communism’, *Vice Magazine* 12. [https://www.vice.com/en_uk/article/ppxpdm/luxury-communism-933]
- Berlant, L. (2016) ‘The commons: Infrastructures for troubling times’, *Environment and Planning D: Society and Space*, 34(3): 393-419.
- Beverungen, A., A.M. Murtola and G. Schwartz (2013) ‘The communism of capital?’, *ephemera*, 13(3): 483-495.
- Bialski, P., H. Derwanz, B. Otto and H. Vollmer (eds.) (2015) “‘Saving” the city: Collective low-budget organizing and urban practice’, *ephemera*, 15(1).
- Bijker, W.E., T.P. Hughes and T.J. Pinch (eds.) (1989) *The social construction of technological systems: New directions in the sociology and history of technology*. Cambridge: MIT press.

- Brenner, J. and B. Laslett (1989) 'Gender and social reproduction: Historical perspectives', *Annual Review of Sociology*, 15(1): 381-404.
- Brooks, A. (2013) 'Stretching global production networks: The international second-hand clothing trade', *Geoforum*, 44: 10-22.
- Castoriadis, C. (1987) *The imaginary institution of society*. Cambridge: Polity.
- Chelcea, L. and G. Pulay (2015) 'Networked infrastructures and the "local": Flows and connectivity in a postsocialist city', *CITY*, 9(2-3): 344-355.
- Chertkovskaya, E. and B. Loacker (2016) 'Work and consumption: Entangled', *ephemera*, 16(3): 1-20.
- Cowan Schwartz, R. (1983) *More work for mother: Ironies of household technology from the open hearth to the microwave*. New York: Basic Books.
- Dalla Costa, M. and S. James (1975) *Power of women and the subversion of the community*. Bristol: Falling Wall Press.
- Daly, K. (2016) 'What is restorative justice? Fresh answers to a vexed question', *Victims & Offenders*, 11(1): 9-29.
- Dean, M. and K. Villadsen (2016) *State phobia and civil society: The political legacy of Michel Foucault*. Redwood City: Stanford University Press.
- Demaria, F. (2010) 'Shipbreaking at Alang-Sosiya (India): An ecological distribution conflict', *Ecological Economics*, 70(2): 250-260.
- Demaria, F., F. Schneider, F. Sekulova and J. Martinez-Alier. (2013) 'What is degrowth? From an activist slogan to a social movement', *Environmental Values*, 22(2): 191-215.
- Deutsche, R. (1996) *Evictions: Art and spatial politics*. Cambridge: MIT Press
- Feder Kittay, E. (2013) *Love's labor: Essays on women, equality and dependency*. New York: Routledge.
- Feder Kittay, E. and E.K. Feder (eds.) (2003) *The subject of care: Feminist perspectives on dependency*. Oxford: Rowman & Littlefield.
- Federici, S. (2004) *Caliban and the witch: Women, the body and primitive accumulation*. New York: Autonomedia.
- Federici, S. (2016) 'Social reproduction: Between the wage and the commons. An interview by Marina Sitrin', *Roar Magazine*, Issue 2. [<https://roarmag.org/magazine/social-reproduction-between-the-wage-and-the-commons/>]
- Fisher, B. and J. Tronto (1990) 'Toward a feminist theory of caring', in E.K. Abel and M.K. Nelson (eds.) *Circles of care: Work and identity in women's lives*. New York: SUNY Press.

- Fortunati, L. (1995) *The arcane of reproduction: Housework, prostitution, labor and capital*. New York: Autonomedia.
- Foucault, M. (2009) *Security, territory, population: Lectures at the Collège de France 1977 – 1978*, M. Senellart, F. Ewald, A. Fontana and A.I. Davidson (eds.). Basingstoke: Palgrave Macmillan.
- Gibson-Graham, J.K. (2006) *A postcapitalist politics*. Minneapolis: University of Minnesota Press.
- Gilligan, C. (1982) *In a different voice*. Cambridge: Harvard University Press.
- Graham, S. and N. Thrift (2007) 'Out of order: Understanding maintenance and repair', *Theory, Culture and Society*, 24(3): 1–25.
- Graziano, V. and K. Trogal (2017) 'The politics of collective repair. Examining object relations in a postwork society', *Cultural Studies*, 31(5): 634–658.
- Haenfler, R., B. Johnson and E. Jones (2012) 'Lifestyle movements: Exploring the intersection of lifestyle and social movements', *Social Movement Studies*, 11(1): 1–20.
- Haraway, D.J. (2016) *Staying with the trouble: Making kin in the Chthulucene*. Durham: Duke University Press.
- Hardt, M. and A. Negri (2009) *Commonwealth*. Cambridge: Harvard University Press.
- Houston, L., D. Rosner, S.J. Jackson, and J. Allen (eds.) (2017) R3PAIR VOLUME. *Continent* 16(1). [<http://continentcontinent.cc/index.php/continent/issue/view/27>]
- Huws, U. (2015) 'iCapitalism and the cybertariat. Contradictions of the digital economy', *The Monthly Review*, 66(8). [<http://monthlyreview.org/2015/01/01/icapitalism-and-the-cybertariat/>]
- Jackson, S. J. (2014) 'Rethinking repair', in T. Gillespie, P. Boczowski, and K. Foot (eds.) *Media technologies: Essays on communication, materiality and society*. Cambridge: MIT Press, 221–240.
- Jackson, T. (2009) *Prosperity without growth?: The transition to a sustainable economy*. UK Government's Sustainable Development Commission. [http://www.sdcommission.org.uk/data/files/publications/prosperity_without_growth_report.pdf]
- Johnsen, C.G., M. Nelund, L. Olaison and B. M. Sørensen (2017) 'Organizing for the post-growth economy', *ephemera*, 17(1): 1–21.
- Kern, L. (2016) 'Rhythms of gentrification: Eventfulness and slow violence in a happening neighbourhood', *Cultural Geographies*, 23(3): 441–457.

- Latour, B. and E. Hermant (1998) *Paris ville invisible*. Paris: La Découverte.
- Lees, L. (2018) 'The managed decline of inner city social housing', in BBC 'InsideOut London' documentary, broadcast 3rd September 2018. [<https://le.ac.uk/news/2018/september/gentrification-expert-discusses-2018managed-decline2019-of-estates-for-bbc>]
- Littler, J. (2008) *Radical consumption: Shopping for change in contemporary culture*. Berkshire: Open University Press.
- Mackay, R. and A. Avanesian (2014). *#Accelerate: The accelerationist reader*. Falmouth: Urbanomic.
- Mattern, S. (2018) 'Maintenance and care', *Places Journal*. [<https://placesjournal.org/article/maintenance-and-care/>]
- Moore, J. (2014) 'The end of cheap nature, or, how I learned to stop worrying about "the" environment and love the crisis of capitalism', in C. Suter and C. Chase-Dunn (eds.) *Structures of the world political economy and the future of global conflict and cooperation*. Berlin/Münster/Wien/Zürich/London: LIT Verlag.
- New Economics Foundation (2008) *A green new deal: Joined-up policies to solve the triple crunch of the credit crisis, climate change and high oil prices*. [https://neweconomics.org/uploads/files/8f737ear195fe56db2f_xbm6ihwb1.pdf]
- Nixon, R. (2011) *Slow violence and the environmentalism of the poor*. Cambridge: Harvard University Press.
- Noddings, N. (1984) *Caring: A feminine approach to ethics and moral education*. Berkeley: University of California Press.
- O'Connor, M. (1994) 'Introduction: Liberate, accumulate—bust?', in M. O'Connor (ed.) *Is capitalism sustainable? Political economy and the politics of ecology*. New York: Guilford.
- Perey, R. and S. Benn (2015) 'Organising for ecological repair: Reconstructing land management practice', *Organization & Environment*, 28(4): 1-20.
- Petrescu, D. (2007) *Altering practices: Feminist politics and poetics of space*. London: Routledge.
- Pettinger, L. (2017) 'Green collar work: Conceptualizing and exploring an emerging field of work', *Sociology Compass*, 11(1): 1-13.
- Phillips, M. and E. Jeanes (eds.) (2018) 'Alternative organizing', *ephemera*, 18(4).
- Plumwood, V. (1993) *Feminism and the mastery of nature*. London: Routledge.

- Podkalicka, A. and D. Potkańska (2015) 'On the meaning of popular representations of low-budget urban practices in Poland: The case of cultural translation', *ephemera*, 15(1): 95-119.
- Puig de La Bellacasa, M. (2017) *Matters of care: Speculative ethics in more than human worlds*. Minneapolis: University of Minnesota Press.
- Rai, A. S. (2019) *Jugaad time: Ecologies of everyday hacking in India*. Durham: Duke University Press.
- Ratto, M. and M. Boler (2014) *DIY citizenship: Critical making and social media*. Cambridge: MIT Press.
- Reeves-Evison, T. and M.J. Rainey (eds.) (2018) 'Ethico-aesthetic repairs', *Third Text*, 32(1).
- Rosner, D.K. and M.G. Ames (2014) 'Designing for repair? Infrastructures and materialities of breakdown', paper presented at the 17th ACM Conference on Computer Supported Cooperative Work & Social Computing, Baltimore, USA, February 15-19. [<http://www.danielarosner.com>]
- Russell, A. and L. Vinsel (2016) 'Hail the maintainers', *Aeon*. [<https://aeon.co/essays/innovation-is-overvalued-maintenance-often-matters-more>]
- Salleh, A. (2010) 'From metabolic rift to metabolic value: Reflections on environmental sociology and the alternative globalization movement', *Organization and Environment*, 23 (2): 205-219.
- Sedgwick, E.K. (2003) *Touching feeling: Affect, pedagogy, performativity*. Durham: Duke University Press.
- Sevenhuijsen, S. (1998) *Citizenship and the ethics of care: Feminist considerations on justice, morality and politics*. London: Routledge.
- Shotwell, A. (2016) *Against purity: Living ethically in compromised times*. Minneapolis: University of Minnesota Press.
- Shove, E. (2003) 'Converging conventions of comfort, cleanliness and convenience', *Journal of Consumer Policy*, 26(4): 395-418.
- Shove, E. (2018) 'What is wrong with energy efficiency?', *Building Research & Information*, 46(7) :779-789.
- Simone, A.M. (2014) 'Infrastructure, real economies, and social transformation: Assembling the components for regional urban development in Africa', in S. Parnell and E. Pieterse (eds.) *Africa's urban revolution*. London: Zed.
- Smith, N. (1996) *The new urban frontier: Gentrification and the revanchist city*. London: Routledge.

- Spelman, E.V. (2002) *Repair: The impulse to restore in a fragile world*. Boston: Beacon Press.
- Stahel, W. (2017) 'Preface', in D. Baker-Brown (ed.) *The re-use atlas: A designer's guide towards a circular economy*. London: RIBA Publishing.
- Star, S.L. (1999) 'The ethnography of infrastructure', *American Behavioral Scientist*, 43(3): 377-391.
- Strebel, I., A. Bovet, and P. Sormani (eds.) (2019) *Repair work ethnographies. Revisiting breakdown, relocating materiality*. London: Palgrave Macmillan.
- Suchman, L. (2005) 'Affiliative objects', *Organization*, 12(3): 379-399.
- Suchman, L. (2009) 'Agencies in technology design: Feminist reconfigurations', paper presented at the 5th European Symposium on Gender & ICT – Digital Cultures: Participation – Empowerment – Diversity, University of Bremen, Germany, March 5-7. [http://www.informatik.uni-bremen.de/soteg/gict2009/proceedings/GICT2009_Suchman.pdf]
- Sullivan, S. (2009) 'Green capitalism, and the cultural poverty of constructing nature as service-provider', *Radical Anthropology*, 3: 18-27.
- Tronto, J. (1993) *Moral boundaries: A political argument for an ethic of care*. London: Routledge.
- Tsing, A.L., N. Bubandt, E. Gan, and H.A. Swanson (eds.) (2017) *Arts of living on a damaged planet: Ghosts and monsters of the Anthropocene*. Minneapolis: University of Minnesota Press.
- Tsing, A.L. (2015) *The mushroom at the end of the world: On the possibility of life in capitalist ruins*. Princeton: Princeton University Press.
- Ukeles, M.L. (1969) 'Maintenance art manifesto', in K. Stiles and P.H. Selz (eds.) *Theories and documents of contemporary art: A source book of artists' writings*. Oakland: University of California Press.
- Verdeja, E. (2008) 'A critical theory of reparative justice', *Constellations*, 15(2): 208-222.
- Wiens, K. (2013) 'The repair revolution', in T. McLellan (ed.) *Things come apart: A teardown manual for modern living*. London: Thames and Hudson.
- Wright, C., D. Nyberg, C. De Cock and G. Whiteman (2013) 'Future imaginings: Organizing in response to climate change', *Organization*, 20(5): 647-658.
- Wright, S. (2013) *Toward a lexicon of usership*. Eindhoven: Van Abbemuseum.

the editors

Valeria Graziano is a Research Fellow at the Centre for Post-digital Cultures, Coventry University. She holds a PhD in Critical Organization and Performance Studies from Queen Mary University, supported by a scholarship by the School of Business and Management. She was a Visiting Fellow at the Digital Cultures Research Lab, Leuphana University (2017).

E-mail: valeria.graziano@coventry.ac.uk

Kim Trogal is a Lecturer in Architecture History and Theory at the Canterbury School of Architecture, University for the Creative Arts. She is co-editor, with Doina Petrescu, of the book *The social (re)production of architecture* (2017), and co-editor of the book *Architecture and resilience* (2018) with Irena Bauman, Randal Lawrence and Doina Petrescu.

E-mail: KTrogal@ucreative.ac.uk