

CHAPTER ELEVEN

The fixing I: Repair as prefigurative politics

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Introduction

‘When somebody uses a tool or piece of equipment,’ writes Peter-Paul Verbeek, ‘a referential structure comes about in which the object produced, the material out of which it is made, the future user, and the environment in which it has a place are related to each other’ (2005: 79–80). Verbeek believes that when I pluck the strings of this choral meshwork, relationships are not simply revealed, but actually made: they really ‘come about’ in the very moment the hand meets the object. What happens when one of the threads of this meshwork that entangles human hands willing to use and things ready to be activated suddenly snaps?

In this chapter I will examine a series of instances how repair has been reframed in design discourse – the total of the conversations that are had about design – over the decade that followed the 2007 financial crisis. This period saw the launch of a number of initiatives including networks, and regular repair events in which expert ‘fixers’ meet members of the public to provide both ‘entertainment, empowerment ... and, ultimately, enlightenment through guided disassembly of your broken stuff’ (Fixit Clinic n.d.). Geographically, these initiatives found a hatching ground in Western Europe and North America, even though they celebrated and re-contextualized language and methods adopted from repair traditions that developed over a longer period and in a less vocal fashion in scarcity economies including Cold-War Eastern Europe, Latin America and South

Asia. Their narrative of bettering of the world through repair took new momentum once the cultural milieu of the 2007 crisis in Europe and North America provided the conditions for presenting this practice as providing a sphere of activity that is suspended from the unpredictable and depersonalized arena of market economy.

The chapter is by no means an exhaustive review of all the repair initiatives that have been launched over the decade. In the first part of the text, I examine the theoretical premises to the adoption of repair as a practical and metaphorical element of a programme for social renewal. In this part of the chapter I also trace the genealogy of contemporary repair thinking to ideas of degrowth and conviviality that circulated in Western Europe in the 1970s. In the second part of the chapter, I identify two polarities within the wave of repair initiatives that took place within the timeframe in question. On the one hand, the re-contextualization of repair from the more contained sphere of homes and repair shops to the public sphere and its elevation to spectacle. On the other, the promotion of individual action through consumer choice and a radical approach to property rights in which opening the black box of the technological object equal to re-establishing un-compromising ownership.

I then illustrate them with specific references to two examples in particular: the Repair Manifesto and the iFixit network. To a greater or lesser extent, repair initiatives also share several rhetorical tropes with those that go under the rubric of design activism in their criticism of repetitive consumption and opposition to a policy environment that favours orthodox application of classical economy principles such as the ability of the market to self-manage itself and the neutrality of the state in economic policy matters (Julier 2013). However, they also consistently place a hard emphasis on the opportunity of repair. Repair is presented as a way to unlock resources, and this language of expansionism sometimes seems at odds with a practice that promotes containment.

Broken world thinking

I am borrowing the title of this section from an essay by Steven J. Jackson ‘Rethinking Repair’ (2014). Between 2014 and 2017, Jackson and Daniela Rosner, who have a background in computer–human interaction and design research, co-led a project on repair, maintenance and sustainability at Cornell University. The project involved an ethnographic study of informal repair sites such as the ubiquitous mobile repair stands in locations like Namibia and Bangladesh and how they function as networking hubs. This work chimes with previous research in which Rosner examined social gatherings in California and concluded a main aim of the groups involved in this kind of activism through promotion of repair was to re-articulate the definition of citizenship while reassembling devices (Rosner 2013).

Jackson's proposal for 'broken world thinking' is a call for reframing repair as a constituent rather than accidental moment of interaction between people and their material environment: 'repair may constitute an important engine by which technological difference is produced and fit is accomplished' (227). Albeit implicitly, Jackson's treatment of repair as re-articulation work seems to me to fit well into a tradition of design writing that looks at the treatment of flaws and inadequacies during the process of design and use and identifies them as instances of thinking happening through design (as opposed to through verbal or visual language). In *The Nature and Art of Workmanship* (1968), David Pye, a cabinet-maker and woodworking tutor at the Royal College of Art, London, coined the term 'workmanship of risk' to describe such workmanship in which the quality of the outcome continuously depends on the care and judgement that the maker employs while working. Throughout the execution of a project, there is an ever-present risk that the original design might go wrong. The maker has no previous knowledge of the inner structure of the wood she is working, and cannot anticipate the resistance that the material will put up. So she has to continuously monitor the progress of work and readapt approach, tools and even the whole design to the conditions she will meet along the way. Other design theorists have later elaborated on the negotiation of this friction between intention and implementation to describe designerly ways of thinking and knowing (see for instance Lawson 1980; Schön 1983; Buchanan 1992; Cross 2001).

How does breakdown put me in the condition to recognize connections between people and things that otherwise stay tacit? According to Jackson, a key to understand this is offered by Martin Heidegger's treatment of 'tool-being' which describes the difference in state between tools that are 'ready-to-hand' versus 'present-at-hand' (Heidegger 2008). In the former case, the interplay between me as a subject and the material world as an object happens so seamlessly, that no question about the object needs be asked. Its existence and instrumentality are given for granted. In the latter case, instead, the object in its broken state obstructs or thwarts action, and in the process, it calls attention to itself. In fact, Graham Harman further elaborated on Heidegger's notion of tool-being and pinned down the moment of breakdown as the proof that relations are the basis for the pre-emptive acknowledgement of any object as valid (Harman 2002: 44–9). Thanks to breakdown, light is shed upon the otherwise dark matter that, while not seen because it is given for granted, constitutes the scaffolding of everyday life. As I reach my hand willing to use and encounter an unexpectedly broken tool, I am forced to recognize barriers and figure out how to overcome them in a no longer smooth landscape of interaction. In the process, I acquire knowledge about the layout of a meshwork of which I am both constituent and probe.

Throughout this chapter I refer to a series of initiatives for the promotion of repair as 'repair activism'. I am using this term not for lack of better

terms, but because the people involved in these projects actively want to engage with the existent social and economic conditions. They intend to use repair sessions as exercises in prefigurative politics, through which they illustrate their ideas for an alternative way of managing material fluxes. Repair activism grants an effective entry point to those whose agenda has the ambition to critically review the inner workings of the material world. ‘Fixing means freedom and independence’, argues Ravid Rovner of the Fixperts collective: ‘As a fixer, you don’t need to worry about wear and tear. Nothing stays new, so forget perfection’ (Rovner 2013).

Repair, understood as continuous struggle to make things work, is also a universally empirical strategy. Outside the sphere of ostensibly post-scarcity societies characterized by repetitive consumption and assimilation of durable items into consumables, repair activism would not find enough traction because mending and fixing are widespread modes of interaction with the material environment, and have already their iconography and culture. One example is the *jugaad* culture of India (Julier 2017: 131–3). Repair cultures of the Cold-War Soviet bloc also provide a case for different considerations. Ekaterina Gerasimova and Sof’ia Chuikina examined the social implications of the constant state of scarcity that afflicted the Soviet Union, and concluded that despite the everyday hardship citizens had to endure, the practice of repair offered them the opportunity to develop their individuality outside the state-controlled sphere. They argue that in the specific conditions granted by plan economies, ‘permanent repair as a form of creativity and lifestyle’ (Gerasimova and Chuikina 2009: 58) came to be ‘not the lot of the dispossessed but an experience shared by most of the population. It was a zone where the individual was in control and could create his or her own symbolic arrangements, a sphere of activity that was independent of the state’ (Gerasimova and Chuikina 2009: 74i1).

Maintenance as a professional or domestic practice has been the subject of a number of ethnographic studies (Dant 2004; Bond, DeSilvey and Ryan 2013). These studies include Julian Orr’s examination of the daily routines of the technicians who repair photocopy machines. Orr’s work showed how their knowledge is shaped not only by manuals and formal training, but also decisively by shared oral traditions. As most oral traditions, these pieces of knowledge are held together by a mythological framework of epic battles with troubled machines and dysfunctional moving parts (Orr 1996). In contrast, repair activism is meticulously documented. It is treated neither as a casual part of the trade nor as inside knowledge for a small circle of initiated. Instead, it is widely transcribed in visual and writing. The iFixit organization, established in 2003, presents itself as an ‘open repair manual’.

Along with traditional repair crafts and scarcity economy ingenuity, *jugaad* and other similar examples from Latin America or Africa are routinely celebrated by activists, used for inspiration, and interpreted as living proof of their prefigurative politics. Yet, this very process of re-contextualization of the source material reveals an approach to fixing and mending that is

more self-conscious, even designerly in its cultural implementation (Julier 2013). When the Dutch curating collective Platform21 launched their repair-themed programme 'Platform21 = Repairing. Stop recycling, start repairing!' in March 2009 they stated that their aim was 'to raise awareness of a mentality, a culture and a practice that not so long ago was completely integrated into life and the way we designed it'. To this aim, they wrote 'a manifesto describing the benefits of fixing things and calling upon designers and consumers to break the chain of throwaway thinking' (Platform21 2009). Similarly, one of the tenets the Restart network in London lists in its 'Code' is: 'We will take seriously the act of bringing another gadget into the world' (Restart n.d.). This emphasis on needless expansion of consumption and generally on 'enoughness' is reminiscent of the antagonist message of two world views with their roots in the 1970s: alternative technology and degrowth. Throughout the 1970s, the political theorist André Gorz advocated a clean break with the 'ideology of growth', and this is the material culture that he imagines taking place at the other side of this break:

Imagine a society based on these criteria: the production of practically indestructible materials, of apparel lasting for years, of simple machines which are easy to repair ... Each neighbourhood, each town would have public workshops equipped with a complete range of tools, machines, and raw materials, where the citizens produce for themselves, outside the market economy, the non-essentials according to their tastes and desires. (Gorz 1979 [1975]: 9)

The utopia Gorz imagines is characterized by three elements: shared access to tools, which results in accumulation of social capital instead of profit; life cycles of objects are slowed down, with the objective of emphasizing the phase of use rather than the phase of manufacturing; finally, crafts and repair skills are actively encouraged, with the result of increasing the participation of the user in the design process. Comparable ideas were articulated in the same decade by Ivan Illich who coined the expression 'tools of conviviality' (Illich 1973) to define value exchanges that could be qualified more in social and cultural terms than financial ones. Ideological investment in such a project is a marker of a humanistic posture that aims to re-appropriate technology to man, and make of the alienating industrial means of production a means of post-scarcity self-development.

Repair as a countercultural practice is mobilization of people and things (human and non-human actants) that wants to engage in an immediate manner with the existing human-made environment and the pace at which things enter and exit this very space. Mobilization is triggered by a situation perceived or mediated as critical. From this point of view, the financial crisis started in 2007 offered a favourable environment for repair initiatives.

In 2008–09, 'as the global economic collapse was gathering momentum', the Proteus Gowanus Gallery in New York dedicated a series of exhibitions

and other events to the theme of mending in an exploration of ‘the disappearing skills and tools of repair’. As part of the programme, the gallery also established the Fixers’ Collective, which was presented as ‘a social experiment in improvisational fixing and mending’ and as ‘intentionally aligning itself with forces generated in reaction to the current economic crisis’ (Proteus Gowanus n.d.). The collective, whose logo features a red monkey wrench in strong contrast with the ornate lettering of the gallery’s logo, kept on meeting weekly on Thursday evenings. The sessions bring together ‘Master Fixers’ and private citizens, who make an offer of five dollars for each broken object they bring to the session.

In the same period other groups and networks were established, such as the Repair Café, which was originally launched in Amsterdam to then become a not-for-profit franchise, and the Fixit Clinic in Albany, California. Since 2008, hundreds of public sites of repair have emerged globally with members of public bringing their electronic casualties and other broken objects to repair gatherings in the hope to learn how to bring them back to life thanks to the help of an expert fixer. Demand is abundant: manufacturers work to price points and are constantly finding ways to cut corners to bring cost down. Consequently, it is often cheaper or easier to dispose of a device and replace it entirely rather than have it professionally repaired. Two of the latest additions are two London-based initiatives launched in 2012: the Restart Project founded by Janet Gunter, and the Fixperts network, started by James Carrigan and Daniel Charny. The exhibitions dedicated to the subject included ‘Fix Fix Fix’ at S O Gallery, London, in 2013, and ‘Repair!’ at the Vitra Design Museum in Weil am Rhein, Germany, in 2014.

In the next part of this chapter, I will examine more closely two initiative for repair promotion that were among the first ones to receive recognition in the timeframe I have chosen for this text: Platform21’s Repair Manifesto and the iFixit network. I believe they illustrate two polarities of a large discourse upon which most design activism taps. On the one hand, the appropriation and elevation to spectacle of practices that previously took place within the more domestic sphere of homes or repair shops. On the other, the emphasis on distributed but individual action as agent of change and the attribution of more shares of responsibility on users rather than other sources of agency.

From repair shop to repair show

In March 2009, the Amsterdam-based curator collective Platform21 launched a programme of workshops, an exhibition, lectures and ‘repair evaluation clinics’ with practitioners, including designers, artists and technologists. Featured participants to this repair-themed programme included id Jan Vormann, Siba Sahabi, and Rachel Griffin. They respectively

led workshops on repairing walls with Lego bricks, mending plastic bags, and the versatility of duct tape.

The programme was accompanied by a Repair Manifesto that started with the imperative ‘Stop recycling, start repairing!’ (Platform21 2011). A cotype document, the manifesto became immediately particularly popular and has since been extensively translated and readapted worldwide. Remarkably enough, Platform21’s repair programme was biased against recycling, perhaps the most symbolically charged practice in sustainability discourse. Recycling, the collective argued, can consume the same or more energy as harvesting the raw materials from the environment, and can sometimes have an even more negative impact from an ecological point of view. This position is grounded. Recycling is certainly today still a better solution than a culture of indiscriminate disposal. Yet, it involves costs and passages that can be drastically reduced when the product is simply not disposed of. Also, the product we entrust to the recyclers only because our brief love affair with it has ended can often be perfectly functional and usable to someone else.

Platform21 itself was a temporary endeavour (2006–09) that was meant to function as an incubator for an Amsterdam design museum to be and the repair programme constituted its grand finale. Its former member Joanna van Zanden continued the experience of the repair programme by founding a new collective of facilitators called Repair Society (RS), which has since led public workshops in cities like Zürich, Stockholm, and Amsterdam, and continues to build an archive of repair stories. In 2014, RS was invited to take part in the Istanbul Design Biennial, which was for that iteration co-curated by Zöe Ryan and Meredith Carruthers, and entitled ‘The Future is not What it Used to Be’. In the run-up to the event, RS led workshops with design students and members of the public and installed a ‘Repair Room’ in the main venue of the biennial, where it exhibited the many repair stories developed by the workshop participants, along with a series of critical texts and artefacts. In the course of the exhibition, visitors were let free to add their own repair stories or instructions, and hang them on the wall alongside the existing posters (Figure 11.1). Through this attempt at collective and generative authorship, RS tried to move from the single tenet-enunciating voice of the manifesto to a multiplicity of perspectives:

Repair is not just about fixing things. The act of repair has cultural, social, economical effects and benefits. Repairing is about the constant struggle to make things work, from language, to things, to relations between people, to systems in society. In fact, repairing is a way to go forward; it bridges old and new, past and future, and could therefore be seen as a sensitive way of thinking about future forms of society (Repair Society 2013).

The argument RS puts forward is that repairing does not come after designing. It is an integral part of the same process. They are equal

moments of the same operational chain that includes harvesting materials and functions from the environment around us, shaping and combining them into objects, and ultimately activating them through use and handling. The same life chain also includes tinkering, hacking, adapting and repairing: all actions that aim at bringing an object onto a further stage of its active life. A broken thing, RS maintains, is in fact a chance to design and engage with functions and materiality. When users refuse to



FIGURE 11.1 A participant posts his repair instructions in the 'Repair Room', a project by Repair Society at the 2013 Istanbul Design Biennial.

engage with design, then they accept design to be imposed upon them in a top-down manner.

This programme is very ‘cultural’ in the sense that it appeals to a large set of ideas, customs and social behaviour of a society and aims to connect them through a tangible narration. Its political content aims to unlock and mobilize the labour and value capital contained in unused objects. In fact, it is a programme that requires active engagement, pointing as it does to a change in lifestyle that goes beyond the relationships between people and things, for it also includes relationships between people and people. Both initiatives, the Repair Manifesto as well as RS thus ultimately reveal a radical ambition that appeals even farther than the hands-on, small-scale repair sessions of other collectives such as the Fixers’ Collective of the Fixit Clinic. The conceptual machinery that powers such a programme is the re-contextualization and elevation to spectacle of practices that previously took place within the more domestic sphere of homes or repair shops.

The fixing I: Individual action through repair

Kyle Wiens and Luke Soules originally established iFixit in 2003. After realizing that repair manuals for Apple devices were not available to the general public, they studied the construction of a series of laptop computers to reverse-engineer their own repair and maintenance instructions. Wiens and Soules initially put the manuals they authored for sale online, but in the face of discouraging sale numbers, eventually changed distribution strategy and made them copylefted, freely amendable and downloadable to anyone. At that point, their website became quickly popular with specialized online Apple forums, and subsequently received wide attention in the press. Wiens, who is the chief officer of iFixit and a prolific writer, in his profile picture brandishes an oversized monkey wrench in an antagonist and almost menacing pose before unambiguously declaring: ‘I am fixing the world’ (Wiens n.d.). He describes his organization without fearing hubris as ‘what the world needed ... an open-source repair manual for everything’ (Wiens, quoted in Koebler 2015) that posts free repair instructions for any electronic devices.

The business model of iFixit involves making available ‘repair kits’ that can be purchased along with the free instructions. The kits include the required materials for any repair job, from spare parts through solvents and glues, to special iFixit-branded tools like the thin plastic cards that serve to pry tightly assembled device parts open – typically laptop or mobile phone LCD screens. These tools are occasionally more and complex and reverse-engineered for the task at hand. The most iconic case is the pentalobe screwdriver. In the 2010s, Apple started to replace traditional screw heads with a new proprietary star-shaped standard that required a tool that was

only distributed to licensed repairpeople. Wiens and Soules prize themselves for being among the first to create a compatible tool and put it on the market. At the time of writing, inexpensive non-iFixit-branded versions of the pentalobe screwdriver made in China could also be purchased online for about 2 euros.

In addition to the manuals, the iFixit website has since inception collected thousands of hours of instructional videos shot by enthusiast repairpeople. While instructing their neighbour, these enthusiasts accompany their



FIGURE 11.2 Kyle Wiens of iFixit brandishes an oversized monkey wrench in the profile picture he uses on the website of his organization.

films with personal commentary on their relationship with the device they are fixing or their lives in general. The iFixit organization and other similar endeavours are thus collecting vast libraries of a novel narration genre, which can potentially function as a reservoir of source material for ethnographic or historical research in a manner similar to product reviews on e-commerce websites.

Wiens defines himself as a ‘right to repair activist’ (Figure 11.2) who is ‘[f]ighting the second law of thermodynamics’ (Wiens n.d.). Discontent with industrial practices perceived as deceitful and dishonest is one of the main streams that feeds into this kind of repair activism. For iFixit, Apple represents that epitome of the contemporary corporation that pushes the notion of high technology as hermetic black box to an extreme. Wiens’s right to repair activism is meant to extend ownership of the product to the buyer beyond its mere surface. The right to repair activism narrative attributes controlling powers to individual behaviour and strives to retain integral property rights for the buyer on any device, however complex it is. In 2013, he co-founded the Digital Right to Repair Coalition, based in North Haledon, NJ, with Gay Gordon-Byrne. The Coalition actively aligns itself with all campaigns pushing laws to strengthen the rights of product owners (Leibner 2015). An example of the successful campaigning for right to repair issues was the agreement signed in 2014 by a group of important US carmakers to make diagnostic tools and repair instructions available to independent mechanical workshops or directly to car owners upon request, instead of exclusively to franchised dealers. This was the result of a decade-long fight that also involved a referendum in the state of Massachusetts in which 86 per cent of the voters chose to enact a ‘right to repair’ bill. In 2016, the manufacturer John Deere moved to counteract such opening of the black box and retain ownership of the product beyond the surface by forcing purchasers to sign agreement that forbids nearly all repair or modification to farming equipment. Since most of the last-generation equipment is sold with embedded software, the manufacturer reserves the right to remotely shut down tractors that have been tinkered with. In response, a market emerged for hacking firmware coded in Eastern Europe and traded on invite-only online forums (Koebler 2017).

Conclusion

Breakdown is a state of things at which the forms of entanglement between people and things that otherwise stay tacit are suddenly revealed. After the 2007 crisis and the disillusionment that followed, repair has been invested with a potent symbolism. In this narration, repair can re-establish a balance and unlock untapped potentials. Not only the intrinsic value of unused objects, but also the vanishing knowledge of the repair trades,

the bricoleur wisdom of idealized faraway people making do with almost nothing. More generally and conceptually, repair has been elevated and celebrated as a metaphor of a new deal between fellow humans and their material environment.

In contrast with repair practices in scarcity or informal economies, 'repair activism' actually involves acknowledging the value broken things still carry. RS dedicated one of their workshops in 2015 to 'The Life of Objects'. Repair activists seek both the opportunity to reduce the quantity of consumption by avoiding buying new products, and the chance to intervene first-handedly by engaging with an object that would otherwise go on to join the multitude of 'former things' populating the landfill. Repair events are imagined as the emergency room of the sustainable age; things are grabbed hold of at the threshold of their afterlives, and given extraordinary treatments to rescue their functionality along with their symbolic capital.

As I have shown in this chapter, there are two currents that can be seen to sustain the rhetorics that circulates in the landscape of contemporary social and political engagement through repair. On the one hand, the mentioned 'enlightenment through entertainment', I mentioned in the introduction. This is an extension and elevation to spectacle of a practice that previously took place within the domestic sphere to the public one, and the appropriation of space for practice left vacant by the progressive disappearance of the professional repair trade. Repair sessions distil the conceptual content of maintenance work and elevate the practice from the sphere of the workshop and the toolbox into the realms of ethics and moral. On the other hand, in the rhetorics of other repair initiatives, material culture emerges as a field to be negotiated through individual choice. Instead of merely accepting technology as something imposed upon us, citizens are invited to appropriate it as a means of personal development. The sphere of individual choice and behaviour are thus promoted to arena for action and prefigurative politics.

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