

# The Routledge Companion to Design Research



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# HACKTIVISM AS DESIGN RESEARCH METHOD

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When designers do academic research it may sometimes be ambiguous what to do with our own agency. Being trained to make *the next new thing*, it can become troubling to realise that one's profession is mainly making new solutions in order to preserve an unsustainable, and often socially unjust, status quo. However, there are examples of ways to re-activate existing assets and resources, ways to 'hack into' and re-circuit systems and knowledges, and from these interventions build more socially sustainable and just practices.

## Activist research methods

While some types of research are based on distanced observation and non-intervention, others claim agency, action and a will to intervene in the world in order to change it. As highlighted by liberation sociologists Joe Feagin and Hernán Vera, the researcher's aim for social change builds on the tradition of Karl Marx, who wrote that "the philosophers have only *interpreted* the world, in various ways; the point, however, is to *change* it" (Feagin & Vera 2001: 1) and they continue:

Sociologists centrally concerned about human emancipation and liberation take this insight seriously. The point of liberation sociology is not just to research the social world but to change it in the direction of expanded human rights, participatory democracy, and social justice.

*ibid.*

As pointed out by sociologist William Carroll, knowledge is unavoidably implicated in relation of power, and research may challenge some aspects of domination as,

the critic realizes that our world—including our knowledge of that world—is not simply *given*, or the result of a natural process, but is an historical construction. It has been produced by the past actions of people, and therefore *can be remade* by future actions.

*Carroll 2004: 2*

For critical research, the task of knowledge production is to change the world, and Carroll starkly puts it, "in a socially unjust world, knowledge of the social that does not challenge

injustices is likely to play a role in reproducing it" (ibid.: 3). Carroll further distinguishes three overlapping critical edges of inquiry: *oppositional*, challenging status quo and taking the side of the oppressed; *radical*, getting at the root of matters to challenge the deeper, systematic bases of the challenges we face; and finally *subversion*, which disturbs the ordinary, interrogating the common-sense and opens doors to alternatives (ibid.). It makes research a critical movement, which is 'open and experimental' and unlocks new political spaces in which to act (Magnusson & Walker 1988: 60).

Similar to Participatory Action Research (PAR), hacktivism (hacking + activism) deals with public issues and social 'troubles' in participatory ways in order to change unjust social conditionings. In PAR research methodology, the research is only one element besides inclusive participation and action for change, and it is "in effect a form of radical pedagogy" (Carroll 2004: 276). Following the influences of Paulo Freire's *Pedagogy of the Oppressed*, the subjugated or marginalised must be active participants in their own emancipation, "so that through transforming action they can create a new situation, one which makes possible the pursuit of a fuller humanity" (Freire 1970: 32). Freire means this is facilitated by a problem-solving education which talks back, and "strives for the *emergence* of consciousness and *critical intervention* in reality" (ibid.: 81). The aim is to improve practices that produce knowledge relevant to the democratisation of social life, which leads to the conclusion that "In PAR the question 'Is it rigorous?' is complemented by the equally important question 'Is it empowering?'" (Kondrat & Julia 1997: 44).

British philosopher Stephen Toulmin (1996) argues that action research is based on an Aristotelian perspective of publicly enacted knowledge or virtuous practical reasoning, or *praxis*. For Aristotle, various forms of knowledge require different methods, even those that explicitly pose value questions about virtuous performances. "*Praxis* knowledge regulates, or organises, the relationships between equals" (Eikeland 2012: 27). These types of knowledge are locally anchored in emancipatory practices. Hannah Arendt proposes a similar perspective, where *praxis* is a public form of intervention, or producing public debate through virtuous action (Arendt 1958). Similarly, Jürgen Habermas declares that "in a process of enlightenment there can be only participants" (Habermas 1974: 40). This take on practice resonates with the basic constitution of design, as design in itself is an intervention and a course of action towards something intended, which in itself is a value proposition, conscious or not made by the designer and later user. Design not only changes things to the more desired condition, as famously proposed by Herbert Simon (Simon 1996), but in addition it brings forward what does not come naturally, by purposefully proposing the realisable (Krippendorf 2006).

Friedrich Fröbel, the founder of the kindergarten educational model, claimed that "[m]an only understands thoroughly that which he is able to produce" (Larsson 1902: 11) and early action researcher Kurt Lewin meant that "in order to understand something you have to change it" (Eikeland 2012: 16). In resonance with these ideas, PAR aims "to study a system and concurrently to collaborate with members of the system in changing it in what is together regarded as a desirable direction" (Gilmore et al. 1986: 161). However, PAR aims not only to build individual agency in the form of artefacts and individual knowledge but exposes systematic contrast in order to examine alternative social arrangements in a manner similar to what sociologist Gideon Sjöberg has called a 'countersystem' approach (Sjöberg et al. 2003; Feagin & Vera 2001).

If we would call the workings of our daily life the 'operating system' of society, the hacktivist countersystem approach aims to hack into and reorder these workings, making them more socially just through community action, social justice, diffusion of agency and critical curiosity in order to amplify self-determination and build capabilities for action. The critically constructed

countersystem built by the hacker slightly shifts the critic's role, in line with the new form of critique called upon by Bruno Latour:

The critic is not the one who debunks, but the one who assembles. The critic is not the one who lifts the rugs from under the feet of the naïve believers, but the one who offers the participants arenas in which to gather. The critic is [. . .] the one for whom, if something is constructed, then it means it is fragile and thus in great need of care and caution.

Latour 2004: 246

This type of assemblage of new worlds is central to hacking, even if its purpose is to call upon emergent systemic change. As we will see further on, hacking requires a tactic of 'cultural counterintelligence' (Becker 2002), and this stance resonates with design research such as 'critical design' (Dunne 1999) or 'adversarial design' (DiSalvo 2012) as it intervenes in order to challenge established orders.

Not only are the outcomes different from non-intervention research, but also the methods of inquiry. Besides participatory observations, a popular and playful way to examine systems and practices is the use of 'probes' – provocative tools for inquiry – engaging users to become co-researchers (Gaver et al. 1999). This type of perspective is also common in 'constructive design research' where designers put entities into the world and discuss their performance both academically and practically, primarily experimenting with ideas rather than aiming to build rigid or valid claims. In this type of research programme, "debate is more important than facts and knowledge" and a "successful constructive program participates in public discourse and interprets society rather than acts as a legislator" (Koskinen et al. 2011: 48).

The core of hacktivist research is the amplification of participant agency and the orchestration of emancipatory processes: it is based on finding, tracing and bending processes of becoming, tuning and re-circuiting energies, flows and power. It is not about revolution or migration to a new system, but like PAR, taking the system at hand and *liberating* unused assets, potentials and passages through it. In this manner, hacktivism is about actualisation of the virtual, re-circuiting processes of becoming – using the 'in-betweens' and hidden resources and potentials by *intensifying* their force through strategically deployed efforts to build new capabilities. That is, not adding more of the same energy, but re-circuiting seemingly disparate energy flows and skills to strengthen one towards social aims, such as Feagin and Vera's directions of expanded human rights, participatory democracy and social justice.

The aim is to affect the processes of becoming/actualisation, and produce new capabilities within the system in the hands of the participants. This is made through the hacking tactics of building on existing codes, comments and interventions of previous researchers, and making sure these efforts point to new possibilities and mobilise new capabilities in efforts of small change. To expose these mechanisms better, we need to explore the concept of hacking.

### Hacking and hacktivism as systemic practices

Hacking is a contested concept usually connoting some form of digital-based countercultural rebellion and it is a contested matter if hacking is constructive or destructive. Programming guru Eric Raymond simply makes the distinction: "hackers build things, crackers break them" (Raymond 2001), while media theorist William J. Mitchell paints a more nuanced description where "[t]he best hacks are cleverly engineered, site-specific, guerrilla interventions that make a provocative point but aren't destructive or dangerous" (Mitchell 2005: 118).

Social researcher Anne Galloway draws out some central points of hacking:

- Access to a technology and knowledge about it ('transparency').
- Empowering users.
- Decentralizing control.
- Creating beauty and exceeding limitations.

Galloway 2004

To these points I would also like to add: 'using the intelligence of many for innovation, and sharing it freely', as the hacker ethic is based on sharing, collaboration and building on already existing code and systems. This last point is often provocatively summed up in Stewart Brand's idea that "information wants to be free" (Brand 1985: 49).

As noted by Raymond earlier, the constructive part is the main motivation of the hacker (Raymond 2001). However, when newly constructed elements appear in the world, old relations of power may be altered, or even broken. As anthropologist Christopher Kelty (2008) points out, hacking, or the practice of 'geeks', introduces new entities into the world, based on the worldview of the geeks. Such new entities overturn existing concepts and modes of representation. These types of constructive practices are "involved in the creation of new things that change the meaning of our constituted political categories" (Kelty 2008: 94). A hack mobilises a mix of entities, not just software or hardware, but also law, people and practices, and all are somehow affected by the new entity constructed. What from one producer seems like trespassing can from the perspective of the newly introduced entity seem as a rightful appropriation of everyday culture, as exposed in the motto of the DIY magazine *Make*: "if you can't open it, you don't own it" (Jalopy 2005).

By introducing new entities, often amplified from existing sources and unsettling status quo, a hack draws new borders, displaces power and re-circuits established chains of command. A hack is a countersystem which tweaks the order of the habitual system, sometimes even making the old and new systems incompatible. Hacking may thus produce a situation of 'adversarial design', a dissident contribution to the world, as examined by interaction designer Carl DiSalvo. Adversarial design exposes inconsistencies and disagreements as a form of political design, producing agonism and contestation (DiSalvo 2012: 2). It highlights ruptures and dislocations and is a tool to provide, recognise and express dissensus, but also constructs paths for change. As DiSalvo notes: "adversarial design can identify new terms and themes for contestation and new trajectories for action" (ibid.: 13) Just like hacking, it proposes new paths for a countersystemic and emancipatory movement, and also produces agonistic 'design things' or controversial assemblies that challenge hegemony and views other than the 'legitimate' (Binder et al. 2011: 189).

Ever since it was coined in 1995 by Jason Sack, the neologism 'hacktivism' (of 'hacking' and 'activism') has been connected to the field where autonomous anarchist tradition meets activism and digital subversion. Hacktivism as a concept connotes to squatters, phreakers, scammers, crackers and cultural jammers who mix civil disobedience, online activism and hacking to employ the "nonviolent use of illegal or legally ambiguous digital tools in pursuit of political ends" (Samuel 2004). The hacktivist stance gathers agonist and dissident constructions of countersystems to highlight contested areas of life and are means to the political ends of expanded human rights, participatory democracy and social justice. Hacktivism could be said to be an emancipatory mode of bottom-up (counter)system design.

Traces of this countersystem approach can also be found in the *Jargon File*, the lexicon for hacker slang. The entry of 'hacker' suggests that it is: "A person who enjoys exploring the details

of programmable systems and how to stretch their capabilities, as opposed to most users, who prefer to learn the minimum necessary" (Jargon File n.d.).

As already noted, the whole social sphere and knowledge is human-made and can be seen as many overlapping 'programmable systems', technologies, apparatuses or soft systems. Not least the structural arrangement of culture, capital and communication.

However, what sets hacktivism apart from PAR is hacking's emphasis on direct intervention into the *material culture* and *artefacts* of society, tweaking the material, social and cultural systems and operations. Hacking takes on a system that is embodied in a machine or device; it is the conscious "trickery and manipulation of a system" (Cramer 2003). Hacking means to open black boxes, reverse-engineer their circuitry and build a new 'plug-in' to the system, challenging it and releasing new capabilities from it. It is about constructing alternatives, not too unlike Andrea Branzi's imaginative research:

The architectural or design project today is no longer an act intended to alter reality, pushing it in the direction of order and logic. Instead the program is an act of invention that creates something to be added on to an existing reality, increasing its depth and multiplying the number of choices available.

Branzi 1988: 17

Such programmatic inventions require hands-on interventions.

### Interventions and prototypes

Hacktivist research is about action, making interventions in the world. A lot of everyday design happens on a simulation level, where the designer makes proposals in the form of sketches and renderings, and very few ever come into existence. This type of design is about the hypothetical preparation for the future. Typical examples of this may be architects, who draw many proposed buildings and may pass through a whole education without ever building a finished house. A similar training is that of the military officer who passes through endless histories, hypothesis, scenarios and simulations, but very seldom experiences a real battle (Abbott 1988).

Another take is an experiment-based approach where the lab is the arena for staged and enacted tests of ideas. In the lab, however, the situation and context is staged in one way or another. The lab is about controlling the parameters of the inquiry, creating isolated scenarios and minimising noise. The lab reproduces reality and lets some of it in through its methodological filters; users may be invited to perform tests, or various forms of more tangible techniques such as 'bodystorming' may be used to bring the experiments closer to real experience (cf. Buchenau & Fulton Suri 2000).

However, hacktivism is *implemented* through interventions and takes on specific social and material effects. As mentioned above, it is based on systemic counterintelligence, reverse engineering, the tracing of pathways and flows through a system, in order to position an intervention at the most effective place in order to change it in some physical way, however modest. Hacktivism is craft-based, breaking open, probing and exploring systems in order to bend or re-systematise them into a more desirable direction.

Hacktivist research follows in the footsteps of the artistic interventionist tactics encouraged by the art and activist group Center for Tactical Magic. Their projects are multilayered yet they follow a framework guiding their creative engagement. Their formula puts emphasis on the physical intervention characterised by:

- 1) a thorough analysis of existing forces
- 2) an attachment to one existing force
- 3) an active engagement within the dominant sphere of activity
- 4) specific, material effects

*Gach & Paglen 2003*

This type of intervention resonates with the 'interrogative design' of industrial designer and artist Krzysztof Wodiczko and enacted, perhaps most famously, in his vehicles for homeless people. Parts of his method are similar to those practised in participatory design, but crucial to his method is the addition of a critical questioning to the design practice which disrupts and reveals the underlying inequalities that design usually covers. Without finding real solutions to the problems, the importance is put on the intervention which questions the world and its functions, pointing towards political action.

Designers must work *in* the world rather than 'about' or 'upon' it. In an unacceptable and contradictory world, responsive and responsible design must appear as an unacceptable or contradictory 'solution'. It must critically explore and reveal often painful life experiences rather than camouflage such experience by administering the painkillers of optimistic design fantasies. The appearance of interrogative design may 'attract while scandalizing' – it must attract attention in order to scandalize the conditions of which it is born. Implicit in this design's temporary character is a demand and hope that its function will become obsolete.

*Wodiczko 1999: 17*

In this sense the hactivist intervention interrogates the world, materialising a scandalising countersystem. The intervention also serves as a 'provotype', rather than prototype, as sketched out by interaction design researcher Preben Mogensen (Mogensen 1992). Mogensen proposes a method of "provocation through concrete experience" as a way to "devise qualitatively new systems" (Mogensen 1992: 31). This means to prototype the future through concrete experience, while simultaneously raising the perspective of what is possible beyond the habitual reference of the actual, thus stimulating action. The aim of the provotype is to break the everyday operations and taken-for-grantedness of our interactions. The role of the designer is to enact three different roles: expert, facilitator and provocateur, depending on the concrete situation.

The provotype creates a framework to imagine and manifest the radically different. The intervention is thus a type of rehearsal of a possible 'micro-utopia', made in order to render the possible imaginable and discussable (Wood 2007). It is a practical fieldwork in the future, or in the radical imagination of designers and users, rather than in the present. Koskinen and colleagues draw similar parallels where:

The aim is to turn fieldwork into an exercise of imagination rather than mere data gathering. In the tough time lines of design, it is hard to view 'dreams' by observation alone. If researchers want to about things like dreams, people have to be invited to the dream during fieldwork.

*Koskinen et al. 2011: 76*

The provotype intervention thus questions the world by raising awareness to new possible scenarios, and mobilises action. Technical examples may be the tweaking of gender-stereotyped toys by Barbie Liberation Organization (Harold 2007), or the hacking of sounding toys in order

to produce new forms of music, called 'circuit bending' (Ghazala 2005). But it may also be systematic intervention into the system of fashion and collaborative clothes production (von Busch 2008).

Such actions may seem limited in scope, but the *modus operandi* is similar to the development concept of 'small change', suggested by Nabeel Hamdi (2004) which means improvised and immediate small-scale actions towards empowerment. To Hamdi, this means participation from below in limited issues, for example a bus stop or a compost bin, that later grows into a large-scale and long-term practice, as over time the collaborations become more sophisticated and intelligent. By redrawing the stretch of a bus-line, introducing a new stop, Hamdi shows how the re-circuiting of the bus stop produces other social interactions, leading to new informal social structures emerging, producing new conditions for an informal market, which in turn assembles children doing their homework on the electric light of the vendors (*ibid.*: 73ff). The importance is put on finding the dynamic forces and points where acupuncture-like interventions may release energies throughout the system, and not try to force the system towards one abstract and distant end, such as 'modernisation'. For Hamdi, the goal is not to create a massive movement but to encourage and 'tip over' those who are close to acting but lack courage or a working example:

Small Change captures three important principles that recur throughout: 'small' because that's usually how big things start; 'change', because that's what development is essentially about; and 'small change', because this can be done without the millions typically spent on programs and projects.

*ibid.*: xxiii

For Hamdi, small change is a starting point for empowerment, and the output of the process can indeed be small scale, community based, visible and tangible, as the bus stop: "[s]tart small and start where it counts" (*ibid.*: 139). Understanding of the current operating system is required to find the spots to intervene, but the perspective puts emphasis on doing, and starting small. As Hamdi puts it: "in other words, we didn't think too much before we started doing, and we didn't do too much before we stopped to think about it" (Hamdi 2010: 36).

The micro-interventions of hacktivist research are evaluated on their micro-changes to the systems they interfere with. But they also have a performative aspect, becoming examples of possible paths of action as they may encourage action and build agency by example. A similar trait could be drawn to the "existence proof" common in mathematics (Koskinen et al. 2011: 63). According to Koskinen et al., design researchers may want to experiment to see what is actually possible: "Researchers may want to show that a certain outcome is possible by building upon it, and there is no need to produce definitive proof beyond the construct" (*ibid.*: 63).

Existence makes possibilities imaginable, tangible and discussable. They produce discursive and imaginative models to possible futures and draw up courses of action. As mentioned by Hamdi, the aim is to produce proof that is convincing enough to encourage those who are close to acting. In this way, the small change intervention is an experiment of conviction, a tipping point towards new capabilities to act.

### **Building hacktivist capabilities**

Hacking reassembles capabilities of design in new ways and orders them into a countersystem. As with PAR, tasks once delegated to professionals are reclaimed and redistributed in order to build empowered capabilities. The capabilities are similar to the approach put forward by Nobel



laureate and economist Amartya Sen, and furthered by philosopher Martha Nussbaum. In this approach, Sen and Nussbaum critique the dominant perspective on societal development focused on economic growth and the measurement of development through the access to commodities (Sen 1985). As Sen notices, possessing a commodity does not mean one is able to use it; owning the commodity does not necessarily mean one has the capability to use it for furthering one's well-being (ibid.: 9). Thus, from Sen's perspective we need to shift focus from the inherent characteristics of commodities to instead look at "what the person succeeds in *doing* with the commodities and characteristics at his or her command" (ibid.: 10). This requires an approach which not only traces the activities of people and their skills, but also empowers their capabilities to act within everyday systems.

To Sen, capabilities should be understood as *what a person is able to do and be*. Sen and Nussbaum further differentiate between *internal* and *external* capabilities, they "are not just abilities residing inside a person but also freedoms and opportunities created by a combination of personal abilities and the political, social, and economic environment" (Nussbaum 2011: 20).

Hacktivism aims to build *abilities* to engage with our surrounding systems, to produce the critical skills to engage with the world, through a countersystem approach. A systemic knowledge is required to amplify this in the most dynamic way, and it resonates with the hacker ethic of sharing skills and plans, code and programs in order to facilitate further building on the code. From the engagement with material culture as point of departure, hacktivism amplifies something as small as limited skill of bicycle repair, the possibility to choose whether we take on a mechanical repair job ourselves or leave it to the bicycle mechanic, towards a system of social self-reliance. In this sense, hacktivism is the strategic application of interventions towards socially emancipatory goals. From a skill or capability, new small changes may emerge, and small business and new interactions and exchanges that were not there before. As Nussbaum put it: "The notion of *freedom to choose* is thus built into the notion of capability. . . . To promote capabilities is to promote areas of freedom" (Nussbaum 2011: 25).

In design, we usually take for granted that owning a commodity immediately transfers its characteristics onto us, making us able to use it. We may facilitate this process by making things 'user-friendly', but in this transaction the user is still not in control of the capabilities being transferred. Hacktivist research aims to actualise the skills, control and systemic capabilities to the users and participants as a form of radical pedagogy. The aim is to facilitate the *ability* to engage in systems, society and the everyday world through the tuning of material culture, in a direction of expanded human rights, participatory democracy and social justice. Hacktivism realises new, grounded freedoms in the realm of design through interventions in collaboration with participants, actualised on an individual as well as systemic scale, and beyond the parameters of the commodity culture's 'operating system'.

In summary, in my earlier research (von Busch 2008) I have suggested the practice of an engaged hacktivist designer; an edited list could be something like this:

- *Reawakening a spirit*: Inspiring and boosting the thirst for exploration and emergence, expanding action spaces and capabilities through simple examples, workshops and manuals to form new forms of attention and awareness.
- *Amplifying the voice of the silent*: Creating and cultivating a language of practice. Developing a critical usage of existing media channels as well as creating new ones to show examples and mobilise for action.
- *Going through informal channels*: Bypassing gatekeepers; finding your own, low-level paths of action.

- *Building self-reliance*: Teaching simple modular methods or subsystems that can easily be expanded into other interventions and creations, developing a trust and courage in one's skills.
- *Mobilising resources*: Reorganising production and opening new action spaces by re-circuiting existing ones; using the possibilities of what is considered as junk, making the leftovers of society your pool of treasures.
- *Provoking the 'taken-for-grantedness'*: Helping to make the virtual or possible imaginable and discussable; making models and visionary prototypes; challenging the participants' imagination.
- *Making micro-plans*: Thinking in small steps, plan small, but being open for serendipity. Making examples of how the single informal action might be turned into a stabilised activity and a sustainable project or business, at least resulting in richness of dignity and self-respect. Mapping relations and prototyping protocols for collaborations.
- *Forming alliances*: Engaging participants, sharing resources and skills, collaborating and building assemblages together. Be a rhizome, a pack of wolves, a swarm of rats. But be conscious of its risks and take seriously the responsibilities it demands.
- *Intensifying the power*: Plugging the project into a larger energy system, using its potentiality, connecting with other lines and riding their shared power, boosting the flows, accelerating the participation, celebrating a shared re-engagement.

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