otto von busch & karl palmås

abstract hacktivism

the making of a hacker culture

In the nineteenth century, the motor replaced the clockwork as the universal model of knowledge. In a similar vein, new media technologies are currently replacing the motor as the dominant 'conceptual technology' of contemporary social thought. This development, Otto von Busch and Karl Palmås argue, has yielded new ways of construing politics, activism and innovation.
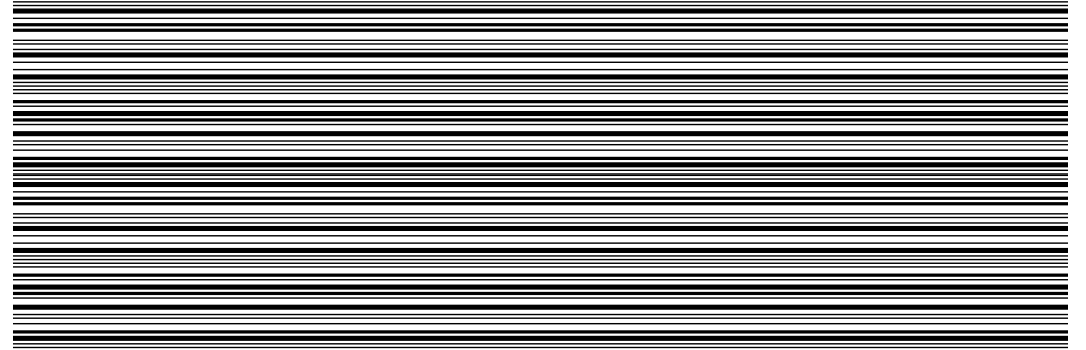
In this publication, Otto von Busch describes "hacktivism" in an abstract sense, relating it to phenomena such as shopdropping, craftivism, fan fiction, liberation theology, and Spanish social movement YOMANGO. Similarly, Karl Palmås examines how publications like Adbusters Magazine, as well as business theorists, have adopted a computer-inspired worldview, linking this development to the dot.com boom of the late 1990s.
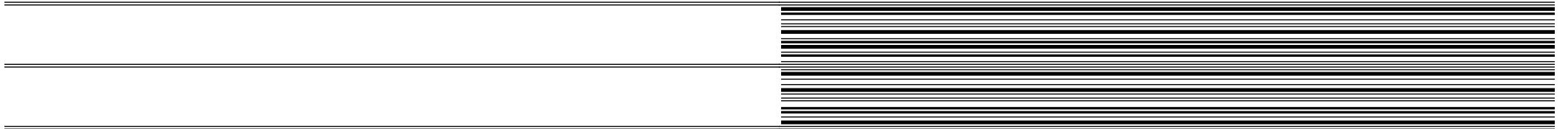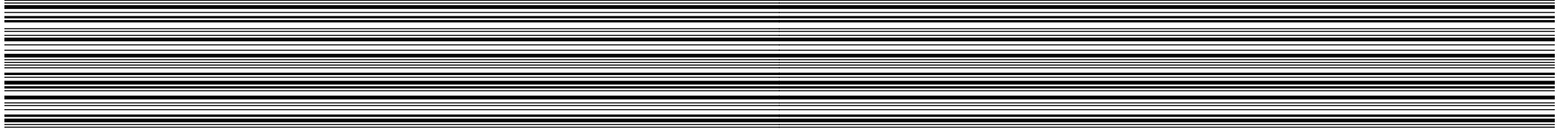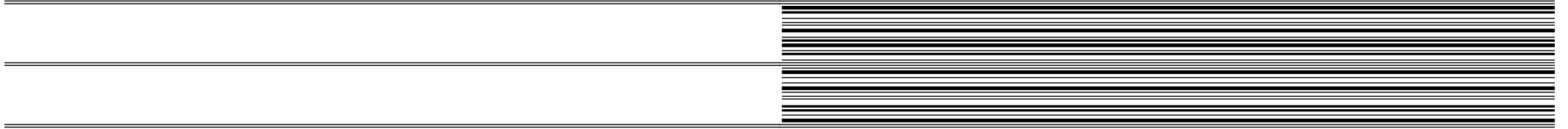
abstract hacktivism: the making of a hacker culture
by Otto von Busch and Karl Palmås
London and Istanbul 2006
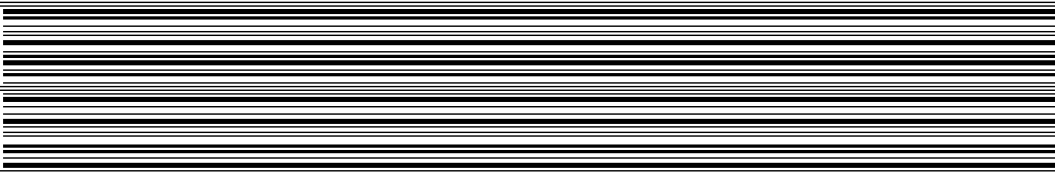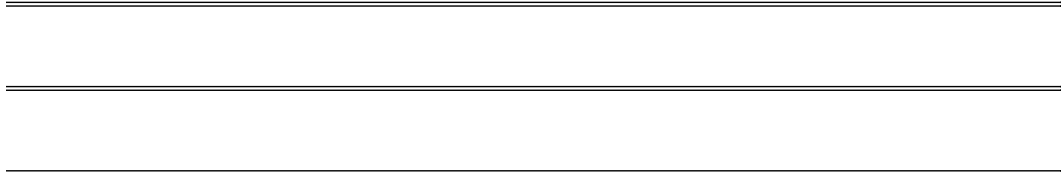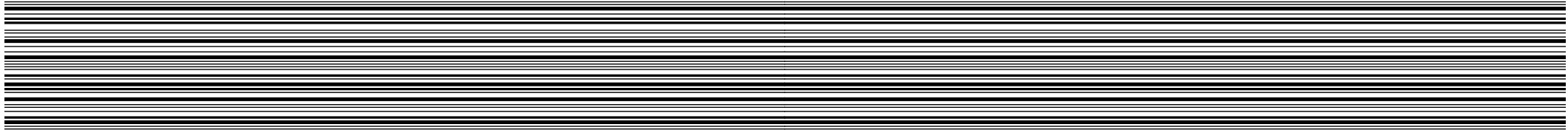
to the hackers;
assemblers and multipliers

abstract hacktivism

the making of a hacker culture

contents

abstract hacktivism

This publication is an effort to connect two important debates that have sprung up in the past decade or so – one about the politics of emerging computer network technologies, and one about contemporary strategies of activism and critique.

The first debate has primarily concerned issues of transparency, openness and democracy in relation to the technological systems emerging in contemporary societies. Here we find the discussions on new media activism, the emergence of Free/Libre Open Source Software (FLOSS) as an alternative to propietary software, the reform or abolishment of copyright laws, and so forth. In other words, this debate deals with the notion that if computer networks are becoming an integral part of contemporary societies, then the politics of these technologies need to brought under the spotlight.

This debate is an important one, especially given the fact that many observers still hold technological development to be an inherently apolitical process. Moreover, as the politics of new media technologies are not readily visible for most users, there is an acute need for these issues to be discussed thoroughly. We therefore have to continue asking questions like 'what is the role of the worker in the new informational society?'[1], 'in what ways is our increasingly computer- and web-based culture being stifled by copyright laws?'[2] and 'what does the concept of the cultural industry mean in the context of an increasingly computerised culture?'[3]. Even though these questions are framed in a digital context, they often spill over into many other functions in society.

The second debate concerns the past, present and future of politics as such – notably the practicing of activism and critique. In recent years, a number of observers have pointed to the failures of the modes of critique and activism that emerged in the late 1960s. One expression of this development is found in authors that doubt whether countercultural postures, Situationist *detournement*, and decades of efforts to deconstruct texts in order to shed light on power structures have actually 'produced the goods' in terms of social change.[4] The resentment towards previous forms of critique is also expressed in the commonly held belief that many of today's ills are in fact unintended side effects of the 1968 revolts.[5] Hence, these observers argue that we have to rid ourselves of the theoretical baggage of the late sixties – and possibly revert back to pre-1968 ways of construing politics and activism. This volume will position itself in between these debates, hopefully linking them in a fruitful way.

On the meaning of hacktivism

Indeed, these two debates have already been linked before, not least through the notion of 'hacktivism'. However, since Jason Sack coined the term in 1995, it been associated with the *online* strategies and tactics of activists that more or less follow the autonomous anarchist tradition – squatters, phreaks, scammers, crackers, and cultural jammers engaged in anti-globalisation, direct action, and resistance. This publication, however, will make a radical break with this use of the term – the 'abstract hacktivism' that this text will discuss is neither about jamming and resistance, nor about online activity.

[1] See for example Wark, M. (2004) *A Hackers Manifesto* Cambridge: Harvard Univ. Press

[2] See for example Lessig, L. (2005) *Free Culture: The Nature and Future of Creativity*. London: Penguin.

[3] See for example Cox, G., J. Krysa & A. Lewin (2004) *DATA Browser 01. Economising culture: On 'the (digital) culture industry'*. New York, NY.: Autonomedia.

[4] Heath, J. & A. Potter (2005) *The Rebel Sell: How counterculture became consumer culture*. Leicester: Capstone.

[5] Boltanski, L. & E. Chiapello (2006) *The New Spirit of Capitalism*. London: Verso; Sennett, R (2006) *The Culture of the New Capitalism*. New Haven, CT.: Yale University Press, pages 1-2.

In line with Eric Raymond's distinction between hackers (who 'build things') and crackers (who 'destroy things')[6], the hacktivism discussed in this publication is concerned with construction rather than deconstruction or destruction. Indeed, from such a Raymond-inspired perspective, 'cracktivism' is a more suitable term for the activities traditionally associated with hacktivism.

Choosing this 'new' meaning of hacktivism over the 'traditional' one – focusing on hacker, rather than cracker, practices – is not a matter of moral judgement. Instead, the choice is purely pragmatic, based on two factors. First, the new meaning of hacktivism is more suitable to describe the concrete actions of actual practicioners 'out there' in society. Many of today's most interesting activists, artists and designers are currently engaging constructive activities that fit well with the original – some would say idealistic and naïve – ethic of the early hackers.

Secondly, the new meaning of hacktivism is better in line with new strains of thought in contemporary critique. The tradtional, cracker-inspired meaning of hacktivism is, after all, largely an extrapolation of the 1968 ideas (culture jamming, *detournement*, and more recently deconstruction). As already hinted, contemporary theorists are iucreasingly moving towards a break with this era. The intellectual legacy of the 'baby boomer generation' – language- and narrative-obsessed social theory, the focus on deconstruction and debunking, the 'science wars' – is unravelling. For instance, Bruno Latour has recently called for a new form of critique:

> Wars. So many wars. Wars outside and wars inside. Cultural wars, science wars, and wars against terrorism. Wars against poverty and wars against the poor. Wars against ignorance and wars out of ignorance. My question is simple: Should we be at war, too, we, the scholars, the intellectuals? Is it really our duty to add fresh ruins to fields of ruins? Is it really the task of the humanities to add deconstruction to destruction? More iconoclasm to iconoclasm? What has become of the critical spirit? [...]
>
> 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.[7]

Similarly, Manuel DeLanda – a fierce critic of the language-obsessed, deconstruction-oriented social theory – has written about the need for new attitude towards critique and activism. Citing Deleuze and Guattari, who wrote that 'too violent an action' can 'throw the strata into demented or

[6] Raymond, E.S. (2001) "how to become a hacker" at: http://www.catb.org/esr/faqs/hacker-howto.html, cited in Otto von Busch's essay in this publication.

[7] Latour, B. (2004) 'Why has critique run out of steam? From matters of fact to matters of concern', *Critical Inquiry*, Vol. 30, No. 2. Available at: http://www.bruno-latour.fr/articles/article/089.html

suicidal collapse, which brings them back down on us heavier than ever'[8], he writes that

> precautions are necessary in a world that does not possess a ladder of progress, or a drive towards perfection, or a promised land, or even a socialist pot of gold at the end of the rainbow. […] Thus the call for a more experimental attitude toward reality and the potential for self-organisation inherent in even the humblest forms of matter-energy.[9]

In other words, the difficulties of contemporary activism and critique lies not in how to 'blow apart' oppressive structures. Instead, the challenge for activists, artists and designers lies in how to create well-functioning self-organised structures (self-consistent aggregates) which can replace the previous structures. In other words, the publication aims to provide another understanding of how actual activism and critique is in a change, both on a practical and theoretical level.

As already hinted, another deviation from the traditional meaning of 'hacktivism' is the fact that this text does not study online strategies or tactics. In other words, this is not a text about the politics of actual computers, or the use of actual computers in politics. Rather, it is about how the abstract mechanisms enacted in actual computers are adopted elsewhere, in non-computer contexts. (Hence the 'abstract' in the title of the publication.) This, we argue, implies that new forms of viewing politics, activism, and critique are emerging – even in social settings far removed from actual computer networks. As a tool with which to build this argument, this text will use some of the ideas put forward by philosopher of science Michel Serres.

Serres' machinic eras

The themes explored in this text emerge from the proposition that the modi operandi of our everyday technologies are interconnected to the conceptual models through which we understand the world. This relation was originally theorised by Michel Serres[10], and more recently deployed by Manuel DeLanda[11]. As DeLanda explains,

> Serres was the first to point out that the transition between the clockwork age and the motor age had more profound implications than the simple addition of a new brand of machines to the technological "races" already in existence. He sees in the emergence of the steam motor a complete break with the conceptual models of the past. […]

[8] Deleuze, G. & F. Guattari (1987) *A Thousand Plateaus*. Ann Arbor, MI.: University of Minnesota Press, pages 160-161.

[9] DeLanda, M. (1997) *A Thousand Years of Nonlinear History*. New York, NY.: Zone. Page 273.

[10] Serres, M. (1982) *Hermes. Literature, science, philosophy*. London: Johns Hopkins University Press.

[11] DeLanda, M. (1991) *War in the Age of Intelligent Machines*. New York, NY.: Zone.
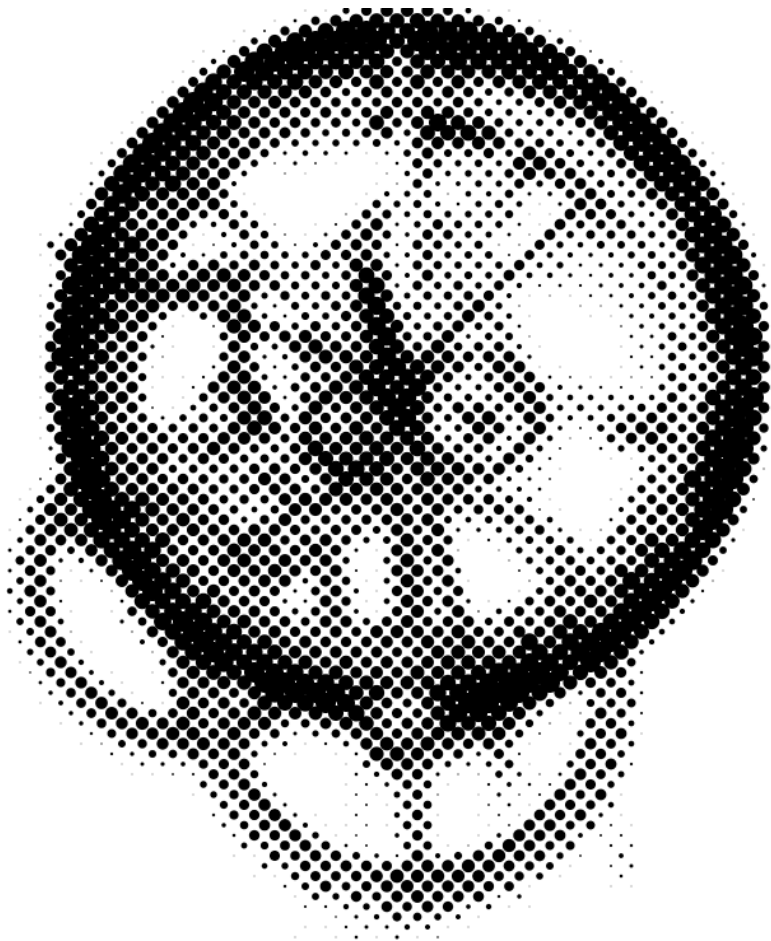
> When the abstract mechanism [of a motor, such as the so-called 'Carnot cycle' of the heat engine] had been dissociated from its physical contraption [the actual motor] it entered the lineages of other technologies, including the "conceptual technology" of science.[12]

Thus, Serres argues that as new types of machines enter the social world, they may end up changing our ways of seeing the world. The logic of the motor did not only appear in the contraptions studied by engineers and natural scientists: it also shaped the theories of modern social scientists, philosophers and artists. In their introduction to the English edition of Serres' *Hermes*, Josué Harari and David Bell state that Serres charted how the motor emerged as

> the universal model of knowledge in the nineteenth century, a construct that always functions in the same way in the all cultural domains – from Marx to Freud, from Nietzsche to Bergson, or from Zola to Turner.[13]

However, in order for the motor 'logic' to spread from the physical, actual motor to the minds of social scientists and authors, the operational diagram of the machine had to be formulated in generic, abstract terms. As DeLanda points out, this process was slow in the making:

> In 1824, a century after it was born as a concrete assemblage, the steam motor was given a completely abstract description by Carnot and began to influence other technologies.[14]

Unfortunately, this story can be somewhat misleading, causing the reader to conclude that developments in the cultural sphere are – in a one-sided manner – dependent on developments in technology. It is important to bear in mind that the general diagrams – the 'abstract machines' – that underpin both technical contraptions and theories in human minds exist autonomously from their actualisations. In other words, a certain diagram can just as well exist in novels or plays before it is actualised in a technical contraption. In such a case, the process will be the reverse of the steam engine case – it may well be a century before a literary trend is actualised in technologies.

Indeed, Serres' general point was that there is a mutual interchange between the world of things (science and technology) to the world of humans (humanities; culture). As René Girard summed up his work:

> Serres's major interest is in the parallel development of scientific, philosophical, and literary trends. In a very simplified manner, one might say that Serres always runs counter to the prevalent notion of the two cultures – scientific and humanistic – between which no communication is possible.[15]

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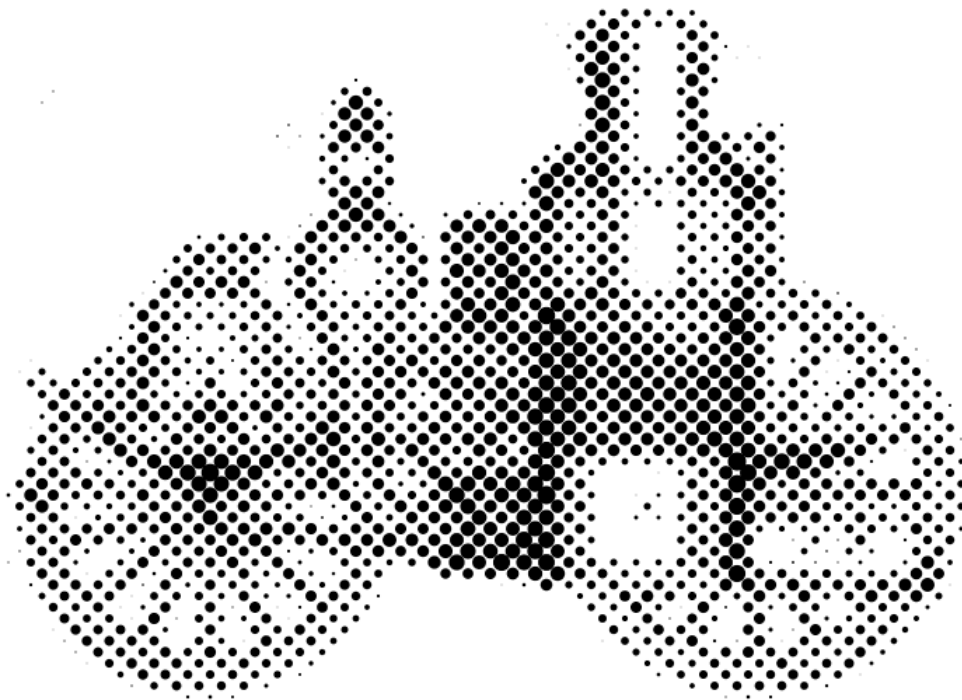
[12] DeLanda (1991), pages 140-141.
[13] Serres (1982), page xix.
[14] DeLanda (1991), page 142.
[15] Cited in Serres (1982), page xi.

Harari and Bell go on to state that Serres'

> thesis is simple: it consists in positing that there exists a passage (or passages) between the exact sciences on the one hand and the sciences of man on the other. [...] However, in order to pass from the exact sciences to the sciences of man, one does not simply open a door and cross the street, to use one of Serres's images. This passage, metaphorically compared to a glacial labyrinth that unites the Atlantic and the Pacific, is not as simple as the classification of knowledge would lead one to believe.

This, they go on, is because of the nature and evolution of modern knowledge. During modernity, we have increasingly endeavoured to separate 'objective', exact sciences from 'subjective' humanities – and the efficiency of modern science is hinging upon the very specialisation that causes it to demarcate itself from humanities. However, in rare situations – as in the case of the spread of the motor diagram in modern thought – routes for traversing the gulf between humanities and the exact science open up.

Expressed in these Serres-inspired terms, this text will explore whether a new machinic era is making its presence felt in contemporary culture:

Are the 'traditional' conceptual models of modern thought, inspired by the abstract mechanisms of motors, being replaced by new conceptual models, based on the abstract mechanisms of computers?

In the outro, we will delve into the specifics of this supposed shift. For instance, is this simply a shift in our (human) subjective metaphors of thought; or does it represent a shift in some mind-independent reality? To what extent does this shift towards computer-like conceptual models represent a technologically determined development? How do we conceive of the human politics of this shift?

The texts

The following texts interrogate different aspects of this supposed shift towards computer-inspired conceptual models. In line with the title and subtitle of this text, the first essay is about 'abstract hacktivism' and the second is about 'the making of a hacker culture'. Thus, Otto von Busch explores the 'abstract mechanism' that underlies the practice of hacking, applying it in contexts that are not computer-related, and Karl Palmås explores 'the making of' a cultural shift in which computer-like conceptual models are used as tools for understanding the world.

Otto von Busch's essay explores the multifarious ways in which the notion or approach of hacking can be or has been adopted in the fields beyond computers. Craft, fan fiction, and religion here act as arenas where a hacking methodology is used. By relating hacking to heresy he stresses processes renegotiating control in hierarchies and doctrines. Rather than seeing hacking as a oppositional position it can be seen as a dialogical process, converging opposites into hybrids, still keeping the power on. For
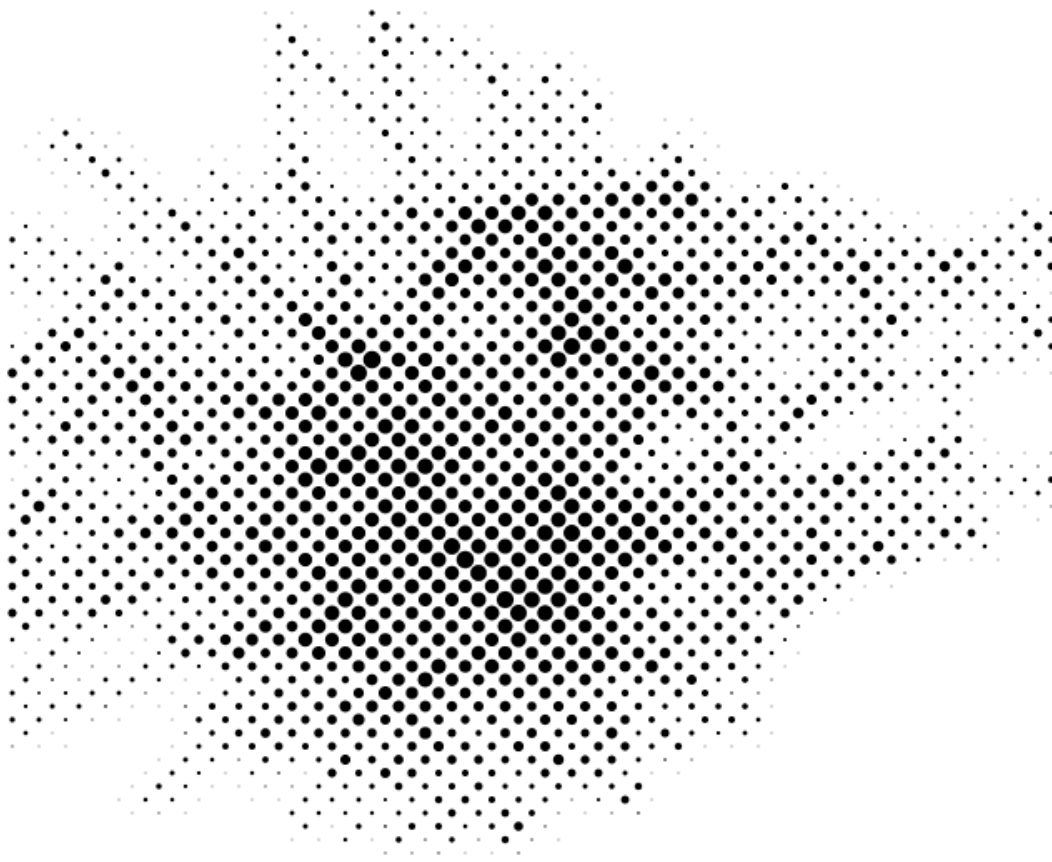
better understanding hacking he proposes interfaces, in-betweens, and constructive assemblies as references to mirror this modus operandi.

Karl Palmås' essay charts how computer network-inspired conceptual models of the economy have penetrated the fields of both business theorists and activists. These conceptual models are juxtaposed against the motor-inspired modes of thought that dominated previous accounts of the economy. In particular, he contrasts emerging computer network theories of the world with the worldview that emerged in the wake of 1968, which (according to him) was a modification of the modern motor-like worldview.

In the second part of his essay, Karl analyses the emergence of this cultural formation. Rather than trying to interpret its meaning, he focuses on exploring the forces that shaped the 'becoming' of this formation. In particular, he explores the relation between the emergence of this computer-inspired worldview and the dot.com boom of the late 1990s. Hence, he sees the new media bubble as a process that funnelled a huge set of resources (financial and human) into practices whose prime legacy was the spread of a computer-like abstract machine in contemporary culture. He therefore suggests that the emergence of the computer-inspired worldview is an example of what Nigel Thrift has fittingly called the 'knowing' character of the economy – during the dot.com boom the economy started to tell stories about itself. This, he concludes, has created a cultural shift on par with the one associated with 1968.

Hacking and Heresy

Otto von Busch

In this text you will meet a mongrel collection of examples which all reflect some aspect of how hacking is applied in various fields. Hacking as an approach is a set of activity tools more than a specific relation to computers, even though it is easy to interpret the systems they deal with as networks, protocols and systems of code.

Hacking and Heresy can be seen as two practices of distributed reinterpretation of systems and political protocols, especially in relation to organic networked systems where the hacker or heretic claims the right to be co-author and co-designer.

These roles have traditionally been regarded as dialectic positions of opposition, as subversive counter culture or even as violent destruction, but I argue that their core activity is constituted of constructive positions of co-design. Their approach to the systems they inhabit is opposing

petrified control by paving new routes of thought. Not so much nihilistic devastation as empowering aggregation. They form intermediate and operational positions using and reclaiming a system, infrastructure of faith to reach higher and more fulfilling meanings and aims.

It is a convergence of forces in society that now make hacking relevant as a constructive practice of activism. The transformation of society from one abstract machine to another (as argued in the introduction), from an industrial reality and mode of production to a networked. Some put this shift in terms of change from nation state and institutional structure to individualist and global liberal market. Either way we can trace a shift of organization and format, not only of power but also of how we engage, act, participate and see society in a new image of our world.

We can see this change happen in culture, economy, politics, theology, military thinking. Often shifting from a top down discipline and control rigidity to a bottom up perspective of self-organization and collaborative work. It is an opening of systems. Especially it shows a stark contrast to the opposite tendency in society – of surveillance, immaterial property and exploitative aspects of global capitalism. A development becoming more and more extensive.

In a closing world hacking is an expanding a field of action, for many. The text will guide us through some of these fields.

As mentioned the format of the text is a view on various fields of practice – and assembled into a *juxtassemblage* to mirror and form a new understanding of hacking as activism. Curator Miya Yoshida coins a method of "juxtassemblage" where she is bridging juxtapositions into assemblages.[1] Dialectics are transformed into new shapes, not solved by domination. Instead they are combined, merged and assembled into hybrid forms. Juxtassemblage is a process more like a conversation than a monologue, merging what was before regarded as independent and maybe even opposite entities. A dialogic process of making pervious unclassifiable aspects visible, bridging gaps and contradictions by an encircling manoeuvre, an orbital movement, touching from a distance a collection of many models.

The examples presented should thus not be seen as separated entities, neither as universal truth within their walled disciplines. They are instead examples of how flows are modulated. Submerged forces within these practices all exist in flux as a core within hacking.

What I present as a commons in these various approaches is the way these manoeuvres engage with forces at play. As I see them they are operating at a low level, using existing infrastructure and power of a system to tinker, twist, and modulate it after their own will. Building on the existing system with local patches and modifications. Adding small operational programs

to the toolbox and presenting them with a journey on the same stream. Bending the flows of power, but keeping the current on.

Hacking

Hacking is a term usually connected to the world of computers. It has often a connotation of a ingenious geek, breaking into forbidden networks, bypassing security systems, making free and anonymous phone calls to others in their hidden sects to break into a bank. But in computer jargon there is a big difference between the curious hacker and its vicious counterpart the cracker. The programming guru Eric Raymond put the difference simply as: "hackers build things, crackers break them."[2]

This definition easily comes in a moral light, a dispute that has followed hacking since its birth, and it can be argued that also cracking and breaking things is a constructive practice and also necessary for building. But to easily differ the easy reflex of deconstruction from hacking I stress the building and constructive modification as a central aspect of hacking.

Hacking as a modifying culture has always been around but became a broader technological activity with amateur radio and car modding in the 1920s. It is rooted with classic Do-It-Yourself (DIY) culture but became "hacking" first with the introduction of computers. As such it started out as an academic subculture where the computers were rare and software programs shared among users and programmers. Hacking and reusing code was a way to shorten queue times to the computers, but also caught the spirit of curious modifications many of the academics were interested in. Later, as computers became more common, this practice became common in the hobby networks where hardware, programs and operating systems were collectively built upon.

A "hack" has also two literal meanings, either complement or insult, both something done in an ugly way as well as an ingenious beating of a system often from intellectual curiosity.

Hacking is similar, but go beyond, customization. Where customization offers a limited amount of options for change, hacking is in this sense the "colouring outside the lines". It is modifying something beyond the predefined design field of original intensions and customization. It is about scratching ones own itch, but using unexpected methods. Hacking is to find an own way, to encourage exploration, collecting curiosities into action.

Defining exactly what "hack" means is a hard topic since it involves a lot of

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1 Yoshida, M. (2006) *The Invisible landscapes*. Doctoral dissertation, Malmö Academy of Performing Arts, Lund University.

2 Raymond, E.S. (2001) "how to become a hacker" at: http://www.catb.org/esr/faqs/hacker-howto.html

various fields of use and also commonly used outside computer contexts. It is usually an activity on making technology work the way one wants by direct interventions into the functional systems and operations of a machine or device; the conscious "trickery and manipulation of a system"[3]. But hacking can also be used in the meaning of reclaiming authorship (or co-authorship) of a technology by supporting transparency and unanticipated use. It is a critical as well as playful activity circling around a Do-It-Yourself approach to the means for our interaction with the world, circumventing unwanted limitations. A hack can be seen as a deeper intervention of customization. It is a tactic for cultural counterintelligence transforming pre-existing elements to evoke meanings not originally intended in the raw material of the hack.[4] As such it is animated and anti-authoritarian, seizing back imagination subjugated by technocrats or the narrow mindedness of companies. Decentralizing control and empowering will at a low level as a response to the closing of systems. Or Richard Stallman's words "exploring the limits of what is possible, in a spirit of playful cleverness."[5]

A predominant feature in hacking is the exploration, or archaeological excavation of hidden properties in hardware or software. Deep curiosity into the substrata of code or matter. As the motto of the DIY magazine Make says; "if you can't open it, you don't own it". This practice of hardware tinkering takes many shapes, as the text will highlight, and often combine aesthetic and technical skills. Like in circuit bending - the creative art of audio short-circuiting, where music toys and old sound machines are artistically tuned.[6] These hacked toys are bastard inventions between classical musical instruments, electronic noise units, and new aesthetic tools for composition. Central to this form of hacking is not only the exploration of new noises to be bent out of the chips and circuitry, but dominantly a practical excavation, as many sounds and old demos are hidden inside the hardware, unreachable from the outside keyboards and interfaces. Inside your old 80s keyboard hidden relics are kept, something circuit bender Brian Duffy often demonstrates in his live hacking performances.

Hacking in this sense could then be said to center around some topics close connected to DIY culture and connoting mastery in a most literal sense. Making a computer (or any tool or system) do what the hacker wants, whether the computer wants it or not. But hacking is a wide practice, illustrated in four points stated by social researcher Anne Galloway:[7]

- Access to a technology and knowledge about it ("transparency").
- Empowering users.

- Decentralizing control.
- Creating beauty and exceeding limitations.

To these points could also be added; "using the intelligence of many for innovation", as the hacker ethic is based on a notion of collaboration and building on existing code, often summed up with author Stewart Brand's quote that "information wants to be free".

It is a movement of making ones own world by building on others', reclaiming and reforming the environment into a more favourable or freer shape or mode not being forced to adapt a specific way of using technology. But also creating good implementations or beautiful possibilities. Not only in aesthetic sense but also in the way mathematicians call good work "beautiful" – as such an answer to the practical question "how do you make good stuff?".[8] It is having a suggestive character, inspiring to further explorations due to its simplicity and revealing openness. In a world where technology becomes more ubiquitous and disappears from view the hack is bringing political questions back into the light, subverting closed and hidden functions and uses of networks.

Hacking is a practice of re-design by furthering the central copy and paste commands of programming. It's more about using parts in unexpected ways or creating cross-over techniques than creating something truly unique, but at the same time preserving original parts. Repurposing original tools and *modus operandi*. Just like painting is learnt by copying the works of great masters since it forces you to look closely at how painting is made. Like writing is done too.[9] But that is just for learning the basic technique – hacking is finally about colouring outside the lines, exceeding the limitations of the original medium. It is playfully challenging conventions, often triggered by tricksy situations, like improving eating skills with three or more chopsticks in each hand as in a ludic hacking example by Stallman.[10]

In the history of hacking the hack is also seen as a prank, a practical joke, a re-setting of an environment or an exploration into a forbidden space, but without harming anything involved (the "hacker ethic"). Software hacking is just as old as the prank hacks, also including thorough manuals for lock picking, all well documented and with manuals from their history at MIT.[11] Lock-picking reveals how hacking is about a spirit of inquiry, access of information, and mastering skills. An endeavour of collecting curiosities, a practice bound by the "hacker ethic". As often pinpointed in lock picking craftsmanship; an interest in locks, not in doors.

[3] Cramer, F. (2003) "Social Hacking, revisited" at: http://cramer.plaintext.cc:70/

[4] Becker, K. (2002) *Tactical Reality Dictionary*. Vienna: Edition Selene

[5] Stallman, R. (2002) "On Hacking" at: http://stallman.org/articles/on-hacking.html

[6] Ghazala, R. (2005) *Circuit Bending*. Indianapolis: Wiley Publishing

[7] Galloway, A. (2004) "Panel: Design for Hackability" DIS2004, Cambridge, MA, USA, Aug 1-4

[8] Graham, P. (2004) *Hackers and Painters*. Sebastopol, Calif. : O'Reilly

[9] Graham (2004)

[10] Stallman, R. (2002)

[11] Lock-picking guide at: people.csail.mit.edu/custo/MITLockGuide.pdf Pranks at: http://hacks.mit.edu

From the tradition of pranks and lock picking is also born the movement of Urbex – the subculture of urban exploration. With a motto of "leave nothing but footprints, take nothing but pictures" it is a stealthy implementation of everyday adventure merged with radical street level curiosity. A practice representing the contemporary answer to Livingstone's journeys into the white spots on the African map by exploring the urban catacombs, sewer systems and deserted subway tunnels hidden in our everyday concrete jungle. Spatial hacking, accessing passages and places not intended by the administrators but where hackers boldly go. Remaking the maps to tell us more accurately what is actually going on in our proximity, but hidden from our view.

An example of hacking playing with the tension between original and copy in consumer culture is "Shopdropping" - the art of reverse shoplifting. Shopdropping is the insertion of modified commodities back into the shelves of the malls, or introducing "alien items" to the space of commerce as a comment to consumer and material culture. By replacing voice chips in toys to reverse their gender stereotyped messages (as the alteration of Barbie and GI Joe chips by the Barbie Liberation Organization) or shifting barcode stickers this type of hacking is directed to the rituals of shopping. It comments a range of topics, from commodity critique of economic regimes to proposing alternative systems.[12]

Hacking can also label the field where craft meets political activism – "craftivism". Craftivism is a reinvention of craft, by updating or hacking tradition. It is renewing stitching by using new patterns and often combining it with activist protests like stitch sit-ins at Nike stores to protest against labor conditions in east Asia. A "new domesticity" is a resurgence reclaiming craft as tools and methods to bring them contemporary meaning in a mass production or surplus society, and not be seen as part of oppressive culture, but instead as a feminist action. The same crafts find new meanings through adapting them for new uses and patterns, and reinserting the activity itself into contemporary society, now meaning something else. Modulating and tuning the practices to manifest messages that matter today, and often combining them roughly with street culture, making them "cool". Not a passive act but reforming the craft is a taking on a revolutionary role.[13] As the artist Faith Gillespie puts it:

> There is clearly another imperative at work now in our exercise of the old crafts. It has to do with reclamation, with reparation. The world seems not to need us any more to make 'the things of life.' Machines make more and cheap. The system needs us to do the maintenance jobs and to run the machines that produce the so-called 'goods,' to be machines in the consumer societies which consume and consume and are empty. Our turning to craftwork is a

[12] Jahn, M. (2005) "Shopdropping" in *Crosswalks*. iss1 vol2
[13] Spencer, A. (2005) *DIY: The rise of lo-fi culture*. London: Marion Boyars

OUR BOYS NEED SOX KNIT YOUR BIT
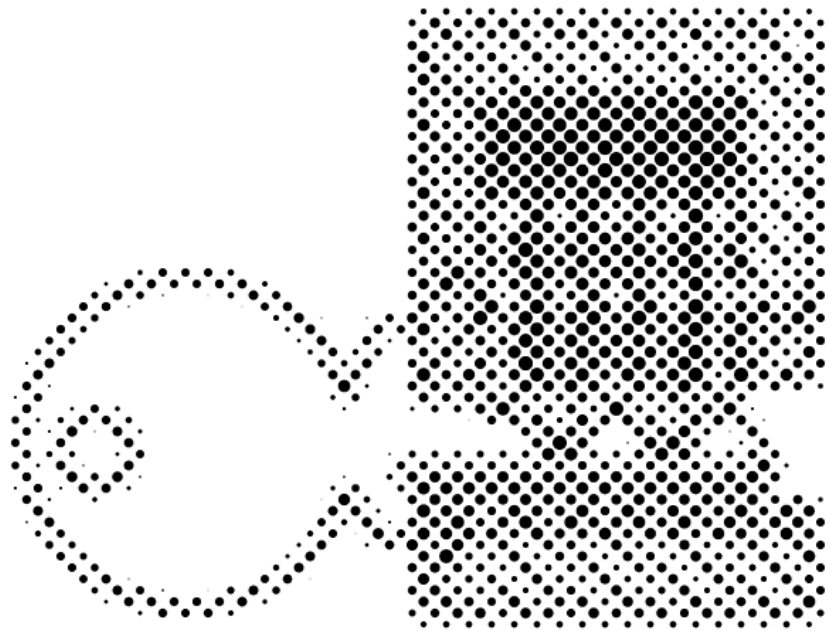
refusal. We may not all see ourselves this way, but we are working from a position of dissent. And that is a political position.[14]

Craftivism, which has especially taken on a position among feminists, is a practice showing that there are many roles to impersonate and take on when performing gender. This tactic is especially seen in established magazines, labelled as feminist, such as *Bitch*, or *Bust* and in events (and also book) such as *Stitch'n Bitch*.[15]

Craftivism can thus be said to reclaim the practice of craft and a return to the material aspects of production. DIY activities here becomes a critical re-view of tradition and an activity where craft is taken back from museums or conservation to become a rebellious act, not only to consumerism but also to a society with decreasing space and time for hobbies. Craft becomes a tool for mindfulness and meditation, but also for connecting with likeminded.

Mike Press at Craft Research (a research team at University of Dundee, UK) means that craftivism "follows the long historical role of craft which is a way of thinking and acting upon the world as a means of self-development, critical reflection, education and making culture."[16] But some regard it as even more radical, as the Canada-based Revolutionary Knitting Circle with their slogan "Building community, and speeding forward the revolution, through knitting".[17]

This might sound like a strong statement of idealism but put in context it creates interesting parallels of the development of knitting and consumerism in times of conflict:

> The November 24, 1941, cover story of the popular weekly magazine Life explained "How To Knit." Along with basic instructions and a pattern for a simple knitted vest, the article advised, "To the great American question 'What can I do to help the war effort?' the commonest answer yet found is 'Knit.'"[18]

It is a note that can be compared with the statement on how people in the US can support a war today, as recalled by President Bush's mother Barbara:

> 'I asked the president, 'What can we do to show support for America?' He said, 'Mom, if you really want to help, buy, buy, buy.''[19]

Craftivism might just be one of the most subversive activities of today.
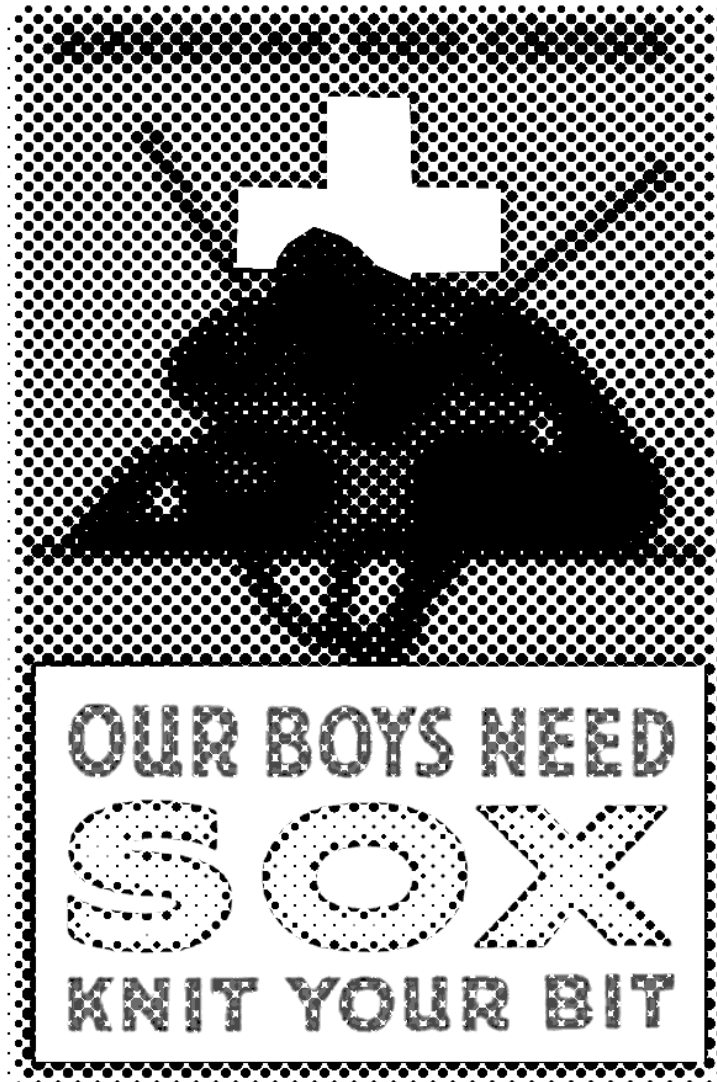
[14] Gillespie, F. (1987) "The Masterless Way: Weaving an Active Resistance" in: Elinor, G. et al, (eds) *Women and Craft.* London: Virago, page 178

[15] or sites such as: www.craftivism.com, www.craftster.com, www.getcrafty.com or craft-hack-kit such as www.subversivecrossstitch.com or www.microrevolt.org

[16] http://craftresearch.blogspot.com/2006/06/problems-with-f-word.html

[17] http://knitting.activist.ca/

[18] Becker, P. (2004) "Knitting for Victory" at http://www.historylink.org/essays/output.cfm?file_id=5722

[19] http://www.commondreams.org/headlines01/1223-02.htm

In the sectors and modes of production in society there is also a production of immaterial property. This is something getting especially apparent when the production lines and products become intangible, as in code, innovation, or myth. A growing group of workers in today's society are producing and processing information – a class of intellectual property creators.

Makenzie Wark suggests that hacking is a new class struggle. In the *Hackers Manifesto* he investigates this point by extracting intertextual lines from Marx, explaining and continuing the struggles of classes into our present time. He traces the same mechanisms of suppression and control through history.

Being driven from their livelihood of surplus on the countryside, by the pastoral class raising the rent for the land, the peasants seek work in the cities where capital puts them to work in factories. Like the farmers before them these new workers are not only dispossessed of the material surplus they produce, but also their culture. The farmers dispossessed of their agriculture and the workers their human culture. Ruling over them are feudal and bourgeois classes taking the surplus as rent for land or profit as the return on capital. These are Marx' pastoral and capitalist classes.

In today's society we have a hacking class, creating and handling information, dispossessed of their production through various forms of private property, copyrights, trademarks and patents.

> We are the hackers of abstraction. We produce new concepts, new perceptions, new sensations, hacked out of raw data. Whatever code we hack, be it programming language, poetic language, math or music, curves or colorings, we are the abstracters of new worlds.[20]

Over this "hacker class" rules a vectorialist class, controlling the vectors along which information is abstracted, appropriating what was once common. They own the means of reproducing the value of information, the vectors of communication.

> Unlike farmers and workers, hackers have not – yet – been dispossessed of their property right entirely, but still must sell their capacity for abstraction to a class that owns the means of production, the vectorialist class - the emergent ruling class of our time.[21]

As private property moves first from land to capital and then to information, the concept of property becomes more abstract. Where capital produces a surplus larger than the farming field it stood on, information is free from any particular object and its production limitless (endless copies but its unique value is protected by lawyers). Or as Wark puts it: "The ruling class seeks always to control innovation and turn it into its own ends, depriving the hacker of control of her or his creation, and thereby denying the world as a whole the right to manage its own development."[22]

It is possible to see these tendencies manifest as the production cycles for products become shorter and copies appear on the market at the same time as the originals. To protect a brand more and more time is spent in the courts. The control of immaterial rights and intellectual property is increasing the time span for copyrights for protecting vectorial investments as wells as market shares and territories. The patents and copyrights all end up, not in the hands of their creators, but of the owners of the means to realizing the value of the abstraction – the vectorialists.

The producers of information are in the grip of the vectorialists to get their work and creativity channeled out into the world. But as they use these vectors their work is transformed into intellectual property. The production of abstraction is a property producing process, and thus a class producing process.[23]

But to sharpen the arguments of Wark I propose a reading of hacking as an act not only producing abstraction and processing information, but as a simultaneous practice of "liberating" this information. Not only by hacking into a locked system or intellectual property, but insisting on sharing this as a new commons for everyone to explore and work further on – as in the hacker ethic.

Hacking is in this sense more than a deconstruction-recreation or a modification of copies. It is a very conscious opening of a system, revealing its power under new light to modulate or amplify it.

It is also the renegotiation and reprogramming of protocols, as these micro formats, platforms, and translation tools are controlled by the vectorialists. Often these formats are severely limited, as in the example of YouTube and MySpace where a simple format provides simple handling in the attention economy, but the economic reward comes to the protocol administrators.

Hacking is breaking control – liberating the imagination through action, colouring outside the lines, escaping the paved routes of top-down intentions. Where opposition and dialectic struggle was the counter culture of a society of discipline, hacking is modification in a society of control.

> Control is not discipline. You do not confine people with a highway. But by making highways, you multiply the means of control. I am not saying this is the only aim of highways, but people can travel infinitely and 'freely' without being confined while being perfectly controlled. That is our future.[24]

The hack is breaking into the flows on the channels. Not blocking the flow, nor choking the power. Instead reconnecting the highways, redirecting energies.

This aspect of breaking control might seem naïve but is more of a psychological emacipatory path where thresholds are lowered and interpassiv-

[20] Wark, M. (2004) *A Hackers Manifesto* Cambridge: Harvard Univ. Press paragraph 002.
[21] Wark (2004) paragraph 020
[22] Wark (2004) paragraph 012

[23] Wark (2004) paragraph 036
[24] Deleuze, G. (2006) *Two Regimes of Madness*. New York : Semiotext(e)

ity is broken. The freewheel riding, the fixed gear, the skateboarder, the street surfer, the off-road are all emancipatory, opening new paths and possibilities within an established infrastructure. Pushing the borders and modes of existence beyond the control mechanisms of the protocol.

The hackers are thus engaged in, what could be seen as a new modified Marxist class struggle, but using hacking manoeuvres instead of dialectic tactics. They are heretics in the eyes of the vectorialists and the system of power.

Fan fiction

So far hacking has been exemplified in quite material terms, in relation to functions and the development of techniques for handing energies. Hacking is also related to code, software, and social functions. But it can also engage in the tinkering of mythology, or narrative. Renegotiating the right for interpretation and co-authorship. As in the examples of fan fiction.

Fan fiction is the practice of writing fictions about characters and settings by fans of an original work instead of the original authorized authors. Serious fans, knowing the original work thoroughly commenting to the work or adding new parts without changing the main lines in the canon works, usually do it for celebrating the original works. Creating own systems of design, publishing and distribution has a long history and is a part of the internal struggles within different disciplines such as press, music, popular science and also fashion. But self-published fanzines I find especially interesting since they are a "hack" in the creation of meaning within popular culture, bypassing the control mechanisms of the original authors, riding on the main narratives.

Fan cultures can also be understood from the perspective of rhetoric. It exceed in talent of *inventio*, the inventory of a subject, quite like the hacker's method of "reverse engineering", the process of discovering technological principles by taking the mechanical object into pieces (or analyzing a software's function and operation). It is not a creation out of nothing but a complementary addition. In rhetoric *inventio* (invention) is the process that leads to the development and refinement of an argument, a discovery of something already existing, but hidden. It is not dialectical but an assembly between the lines. Connected to *inventio* is *topoi* (from the Greek for "places"; i.e. "places to find something"), the sources of information. *Topoi* is the storage for concepts, thoughts and arguments. It is an inventory of thought; places, figures and clichés.[25] But it is also the practice of using these places, the navigation, a mnemo-technical tool. *Topoi* is a "method,

[25] Rosengren, M. (2002) *Doxologi.* Åstorp: Rhetor

a network of empty forms, a storage of filled forms."[26] A method of using the existing knowledge, twist it or apply it to the current issue, and put it together in new forms. Fan cultures are centred around these methods.

The birth of fanzines (magazines made by fans for fans) also showed that this DIY approach was a means for people who wanted to build further on their favorite sci-fi tales and narratives, make up own stories or contexts, but usually keeping the style of their genre or even characters and stories, filling in gaps or expanding scenes. The amateur fiction stories produced in the first fanzines in early 20th century were usually comments and stories connected to the emerging sci-fi community. The writers sending stories or artists sending fan artworks were often feeling dissatisfied with the handling of the issues in the "prozines" – the professional magazines. Many zines also started including "letters of comment" sent to the editor, but also including the address of the commentator so readers' comments could be sent directly, thus bridging readers to create new communities. Thus fan culture has always had a community form, writing fictions for the own narrow audience, forming amateur press associations, newsgroups and mailing lists.

Their new TV stars, be it Star Trek or Flash Gordon, became complex figures in self-published and distributed media where the stories often also mixed characters from different stories, cross-overs, exploring the tensions between them.[27] The stories are parasiting on the original story but also enriching it by exploring the various shades of the narratives. Before kept inside the fan culture borders these fictions are now reaching wider audiences through the Internet.

Fan culture is also twisting the stories in-between the lines of the existing works, reinterpreting the scenes into other directions. Early the fanzines started diverting into subgenres like "slash fiction", the homoerotic adventures of characters outside the frame such as Kirk/Spock (from Star Trek), Crockett/Tubbs (Miami Vice) or Harry/Draco (in Harry Potter). In these stories character relations are re-interpreted, but from a very erotic perspective, adding another layer to stories. These are mostly well crafted to fit the main narratives, explaining gaps and cuts in movies for inserting new meanings in the dialogues. Suddenly a harmless look means something completely different. It is a common understanding within the community that this is done not with the mindset of sabotage, but of love and devotion. Many slash authors also mean that they reveal the true intentions of the original creators that were suppressed by publishing companies and distribution lobby, or simply hidden by the creator to be released by their most devoted fans.

What is fascinating with slash culture from a hacking point of view is the format and tactics it is using to find loopholes in the stories and insert their own erotic authorship into these gaps of the stories. It is thus furthering

the fan fiction culture into fields of "unacceptable" possibilities. Instead of accepting the cuts and closure of the producer and original creator they use these to enrich the stories and multiply layers of gender complexity to the narratives by re-reading the plots and lines of the stories, retying them into new knots and mechworks along the lines the story flows. A process of taking back initiative from the media itself, reprogramming the predictable relations in the story, in a very hands-on way.

Another version of the fan culture is the fan cuts of movies where fans re-edit their favourite movies, changing scripts and flows or simply cut away parts they don't like.

An icon fan edit is the "Phantom Edit" of Star Wars Episode one, "The Phantom Menace". It is re-edit of the movie, removing most of the appearance of the character Jar Jar Binks and slapstick events from the movie which many fans found ridiculous and infantile to their heroes. Without adding more material but using the raw material of the original movie, another, and more acclaimed version by the fans, was hidden inside. The edit is according to the fans more thrilling and also better match the flow and development of the characters into the following episodes.[28] It is releasing new meaning by hacking the author's original statement.

The Machinima ("Machine-Animation" neologism) culture can also be associated with fan cuts where popular multiplayer computer games are used as film studios for various dramas, filmed through the "lens" of one game characters eyes/screen.

Machinima culture is also a form of fan fiction, creating new content through popular games. Expanding the game outside its traditional borders, not only creating worlds in the game for the act of mere playing, but movies on own scripts, enriching the settings of the game. Games are now including support for machinima capturing and editing and fan sites have extensive organized databases of levels, patches and mods (modifications) made by users. Some also have a big community trading plug-ins and game-produced objects over the internet auction site E-bay. This is a phenomenon sometimes called "crowdsourcing" – outsourcing to fans, consumers as creators.[29]

Much of these additions are produced by collaborative work and self-organized teams – mod teams. Mod teams are the garage bands of gaming. Listening, making covers, then finding their own style in relation to their influences. Creating own music with mass-produced instruments, scales and practices common to most bands. But creating things not imagined by the game creators.[30] Like the hip-hop sampler or reggae dub mixer, the

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[26] Barthes "L'aventure sémiotique" in Rosengren (2002) page 83
[27] Many can be found at the largest fan site – www.fanfiction.net

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[28] http://en.wikipedia.org and www.fanfiction.net
[29] by *Wired Magazine* writer Jeff Howe – www.crowdsourcing.com
[30] Sometimes computer games cross media, but often this is done by the originators – like game character Super Mario having a comic and movie etc. (or Lara Croft in Tomb Raider, Quake movie etc)

game patch artist manipulates the prefab semiotics of the game engine.[31] This is a kind of "versioning" that reorganizes along both paradigmatic and syntagmatic axises.[32]

In fan fiction the consumer consume the fiction, react to it, interpret it but also change it and reinsert an own version. Even if we read semantically and say the reader "creates" the text, it is not through the act of reading that the text is physically changed and reinserted into the system. His is the activity at the core of fan fiction and also hacking.

In his ethnographic study of fan cultures, *Textual Poachers*, media theorist Henry Jenkins introduced a concept of participatory culture (consumers who also produce, readers who also write, spectators who also participate), differing fans from ordinary consumers.[33] This causes a dilemma for enthusiastic fans that do not produce, but still know every line in the scripts. But what Jenkin stress is the co-production part, the activities enhanced by co-producion. In this sense fans often have anti-commercial attitude to their fandom, afraid of the phenomena of "sell-out" and regarding their subculture as more "true to the original" (as in many fancut movies). Jenkins borrows de Certeau's term 'poaching' to characterize the relationship between fans and original authors (often corporations) of media texts as "an ongoing struggle for possession of the text and for control over its meanings."[34]

But in much academic work the analysis of fan culture is heavily influenced by Critical theory and Adorno, understanding fandom as pure consumerism fed by the cultural industries and fans as cultural "dupes", or on the opposite, when producing, as engaged in cultural "resistance". These theories put fan identities in a struggle between commercial ideologies (supported by commodity culture) and their "authentic" independent response.

> The old either-or oppositions (co-optation vs. resistance) which have long dominated debates between political economy and cultural studies, approaches to media simply do not do justice to the multiple, dynamic, and often contradictory relationships between media convergence and participatory culture. Approaches derived from the study of political economy may, perhaps, provide the best vocabulary for discussing media convergence, while cultural studies language has historically framed our understanding of participatory culture. Neither theoretical tradition, however, can truly speak to what happens at the intersection between the two.[35]

[31] Like the "semionaut" of Nicholas Bourriaud. Bourriaud, N. (2005) *Postproduction.* New York: Lukas & Sternberg 2005

[32] Schleiner, A-M. (1999) "Parasitic Interventions: Game Patches and Hacker Art" at: http://www.opensorcery.net/patchnew.html

[33] Jenkins, H. (1992) *Textual Poachers* New York, NY: Routledge

[34] Jenkins (1992), page 24

[35] Jenkins, H. (2003) "Quentin Tarantino's Star Wars?" at: http://web.mit.edu/cms/People/henry3/starwars.html
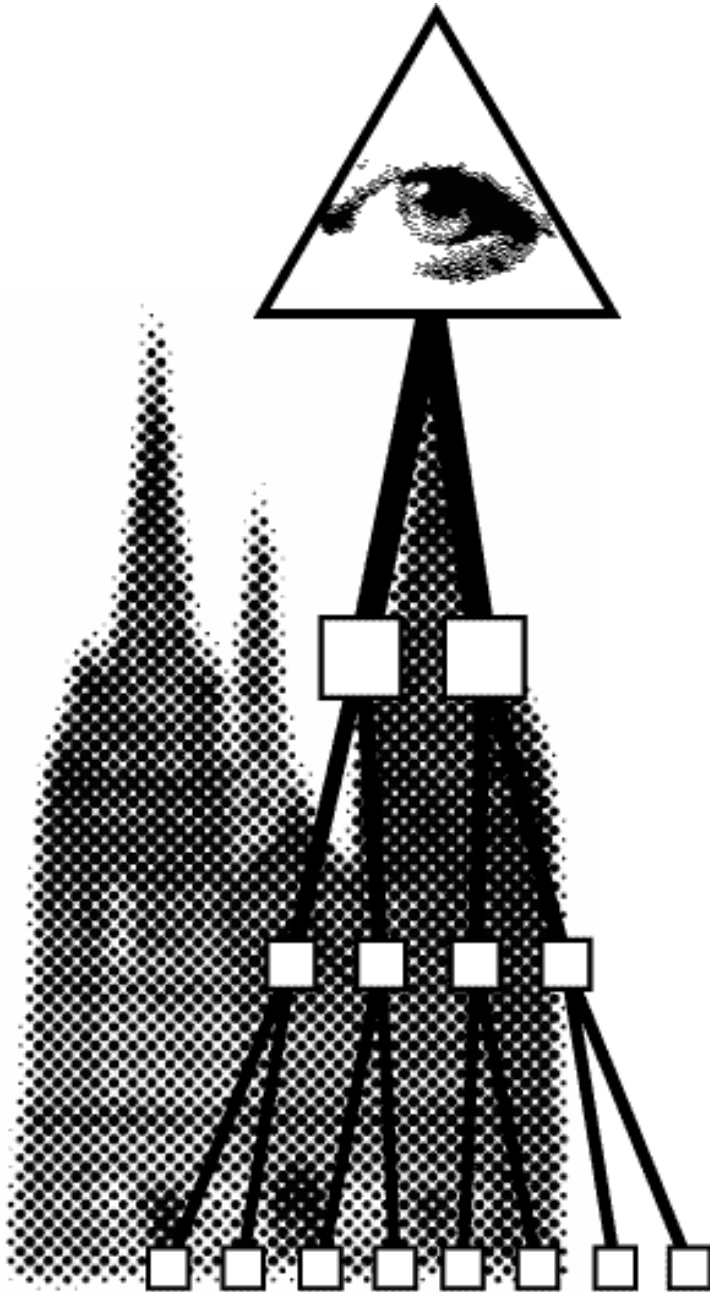
The participation in fan culture merges various approaches of participation; conflict (legal battles), critique (culture jamming), challenge (amateurs against pros), collaboration (co-arrangements with fans), or recruitment (fans hired for their skills by corporations). What is clear is that the new tools of media has enabled the grass root fans to archive, appropriate, and recirculate the media in new ways. They are rereadings and reinterpretations fighting for the right of co-authorship.

A change in approach to authorship and originality as well as a critique of control. Not because of opposition but of attachment. Not of hate but of love.

Heresy

As a parallel to hacking heresy (gr *Haireomai* "choose") can be proposed as a struggle about reinterpretation and control. It has been targeted through history as an unlawful desecration and a godless practice of blasphemy, and often violently suppressed.

Heresy is a theological or religious opinion held to be in opposition of contradiction to the main doctrine of the church, creed, religious system, codex or the orthodox faith (*ortho-* "right" + *doxa* "thinking/language"). It is also an opinion or doctrine in variance with the generally accepted or authoritative interpretation.

Heresy is a value judgement as a free interpretation of a system, but not necessarily disconnecting from it. It is a nonconformism with the hierarchy in a system. Historically it has been a label on various movements of faith, especially in medieval times with Catharism, Bogomilism, and Gnosticism as noted examples. Today's relation between the Roman Catholic Church and Liberation theology is not labelled as heresy but is constituted by a similar situation. Liberation theology has been rejected by the Vatican because of its social agenda and Marxist concepts and exaltation of class struggle.

What differs this movement from medieval heresy is that it is placed *inside* modernism or the societal machine, a stratified machine built on secularized reason (or said to be). Inside a machine saying that faith is unnecessary for its propulsion. It is not an atheist statement, but instead embracing myth. Myth not as falsification, but in a Barthesian sense; a socially formed truth.[36] Not scholastic or sectarian but empowering independent subjects, still stressing that it is Roman Catholic.

Liberation theology as a religious movement, primarily within the Roman Catholic thought, emerged in the 1960s in Latin America to deal with social problems, structural as well as on a local everyday level. Promoting social justice it emphasized the practical application of the social message of

[36] Barthes, R. (1957) *Mythologies.*

Jesus, influenced by the revolutionary struggle of the poor.[37] Even if it has lost some of its attention in Europe it is still very strong in Latin America.

What is often pronounced in the liberation struggle, for example by the Catholic theologian Edward Schillebeeckx, is the grassroots' opposition of the church as a hierarchical machine. Just as in the reformation the objection is a church to occupied with the material and organizational side of faith. A stratified system frozen into a stratified exoskeleton manifesting the corporeality of Jesus. It had become a materialization of the text, and not of the spirit in the gospels. Those opposing the Church have all through history been labelled as heretics, not only from their reinterpreting the doctrine of the codex and holy texts, but also in practice. In the way to perform services or how to perform social and spiritual work not sanctioned from the system.

But the breaking of hierarchical rules within the church has also been supported from theologists deeply connected and well read by the Vatican. For example already Thomas Aquinas supported independent action to oppose the pope when it was necessary, even at risk of being excommunicated, if it was in line with the gospel and human conscience. [38] An ancient move to clearly revitalize the Church's hierarchy. But also Francis and Dominic were critical of hierarchy and raising voices of reforms, something later taken further by Ignatius and the Jesuit style of proclaiming the gospel.

What Schillebeecks is emphasising is the social and spiritual community of the church, of a low-level engagement and participation into the *ordo* of the service. Inspiration is taken from the very first formations of churches, in the first centuries after Christ, where the system was still fluid, and emphasis was on the small local church. A time when the stratified hierarchical control was still avoided. Since then the communities has struggled to avoid the top-down structure of the Church and its communities, and the movements of (sometimes violent) opposition has passed through history. It has been an urgent question from the communities to question the mode of control, because "supreme responsibility becomes tyranny in the hands of men, even in the Church."[39]

Liberation theology is not a sect or a heretic movement, but it has during its lifetime been massively opposed by the Curia and Vatican and many of its practitioners have been rejected by the Roman Catholic Church. Lately it has been known under the name of "contextual theology" as it assembles a wider range of interpretations of locally transformed rituals and practices of service, often with ethnic, feminist or ecological interpretations of the faith.

[37] Smith, C. (1991) *The Emergence of Liberation Theology*. Chicago: Univ. of Chicago Press
[38] Schillebeecks, E. (1983/2004) *God is new each moment.* London: Continuum
[39] Schillebeecks (1983/2004) page 85.

The theology of liberation is a movement with both philosophical and contextual roots, both justifying a political dimension of direct action, finding inspiration in religion to motivate change within its context. To use faith as a leading force for social change in industrial economies and authoritarian political systems. It is an movement of applied socioreligious activism aiming to overcome the enlightenment dichotomy between *facts* and *values*.[40] This dichotomy that once triggered a new curiosity and basis for science has now also become a straightjacket for our understanding of the world. It has lately also been exposed as a very political project where facts indeed has shown to be values of politics. But most often these revelations have been without setting a new course of action, something liberation theology is changing.

Liberation theology as taking standpoint of the oppressed, and not let the gospels be consistently misread and dominated by the power and oppressors. In this view Jesus takes the role as not only saviour but liberator and emancipator. A position of interpretation taken by black and feminist theologists, reclaiming the right to interpret the holy texts from a light of social change. Salvation is in this sense not only a spiritual question, but also a goal rooted in the capacity to transcend the given social situation. The socio-political is not an autonomous sphere separated from the religious. The aim is thus to bridge the secular religious worlds and reject the constraints on social reality of the oppressed, using faith as a tool and mirror for reflection.

Since the 60s the liberation theology movement has been guided by a Marxist agenda and discursive toolbox, and has thus lost some of its political impact since the 90s. The aspects I stress in the movement is not class struggle per se, but the right for textual interpretation and also how a belief system can be hacked, but with the power of belief still intact. Liberation theology is not regarding religion as an "opium for the people", but instead a path for liberation from the opium pushers and their political allies. It is a line of thought turning away from dogma (religious or Marxist) to emphasize activist methodology celebrating belief. People using faith as a vehicle to fight to regain their captive freedom.

One of the main contributors to the field of liberation theology is the Peruvian priest Gustavo Gutiérrez. He underlines how liberation theology is emphasizing a critical reflection on praxis and especially on the works of charity and community.[41] A pivotal force of faith, action, liberation and development and as such an emancipatory path of unfolding and evolution. As an alternative to an inward looking spirituality of contemplation and hermitical sanctity it is emphasizing the activity of working together with the poor, forming community together. *Contemlata aliis tradere - "*to

transmit to others the fruits of contemplation".[42] It is a transition of theology to a Ignatian spirituality (from Ignatius of Loyola), seeking a synthesis between contemplation and action. This new hybrid form of activity is a work of *ortho-praxis*, not a reflection on the truth or rightfulness of statements but on the use and good of praxis and concrete behavior.

Guitérrez further argues for a position where practitioners are taking the role of "organic intellectuals" (a term borrowed by Gramsci), personally and vitally engaged to bridge barriers and borders by interventions and social change, creating the context for theological reflection. It is a role of understanding religion through social engagement, with the commitment of working with the poor. To find hope and emancipation in a world of oppression, struggle and injustice, and to do this trough the Roman Catholic faith.

> Jesus turned to the great prophetic tradition and taught that worship is authentic only when it is based on profound personal dispositions, on the creation of true brotherhood among men, and on real commitment to others, especially the most needy (cf., for example, Matt 5:23-24; 25:31-45).[43]

Jesus becomes in this sense a figurehead of activism, in his way of confronting groups in power during his life. An inspiration not only to live without sin, but also to engage in the political struggle of the oppressed.

This emancipation if both socially external as well as intimately interior, fighting both pressures of power and situations of dependency. Creating an own field of independence but with spiritual connection, a free voice of expression, and also an own possibility for material aspirations.

It is a lived experience, a practical theology, resisting oppression and violence, and emerging to fight injustice and to make ideas and ideals real. As a practical and institutional reformation with heavy socioreligious connection, engaging in participation, reinterpretation as well as partoral work. As a theology of development and empowerment, using belief for fighting and rejecting exploitation.

Central to liberation theology is the act of the breaking of the bread, the sharing as the point of departure as well as destination of the Christian community.[44] The sharing act represents profound communion and it lifts the hope through action.

This act of sharing is also a response to a view of how the organization of the church has closed itself inwards and become petrified with the word, spending the last centuries formulating truths and done almost nothing to

[40] Pottenger, J.R. (1989) *The Political Theory of Liberation Theology*. SUNY Press
[41] Gutiérrez, G (1973) *A Theology of Liberation*. London: SCM Press

[42] Guitérrez (1973) page 7.
[43] Guitérrez (1973) page 228.
[44] Gutierrez, G. "The Task and Content of Liberation Theology" in Rowland, C. (1999) *The Cambridge Companion to Liberation Theology*. Cambridge: Cambridge Univ. Press. page 37.
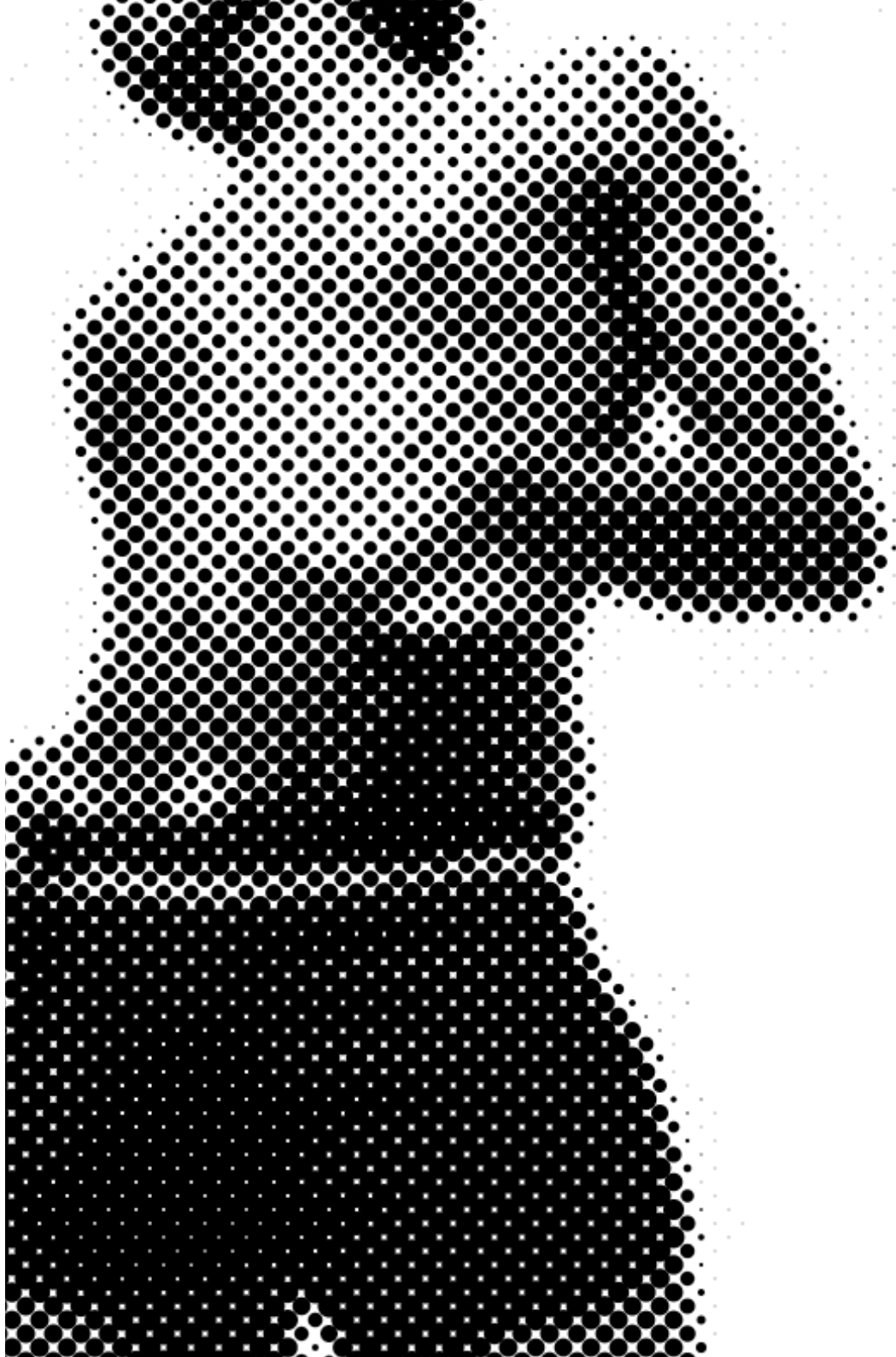
make a better world. A colossus turned away from the world, and as such reformist movements have challenged it from within since its formation. But in today's developing world this can no longer be overseen. As stated by the Franciscan priest Leonardo Boff:

> Through the latter centuries, the church has acquired an organizational form with a heavily hierarchical framework and a juridical understanding of relationships among Christians, thus producing mechanical, reified inequalities and inequities.[45]

It is this stratification of the institutional church the liberation theology is struggling with, to represent a new formation and experience of community. To avoid a structure of control, as Jesus never utters the word "obedience".[46] To create form of church not constituting of alienating structures but instead of direct relationships, reciprocity, deep communion, mutual assistance, equity, and communality of gospel ideals.[47] It is a decentralized model of channelling faith. Contextually shaped but still in immediate relation to the gospels and communion.

Creating a complemetary practice parallel to the institutional church, but avoiding its hierachical structure and alienating top down power relations. A grassroot network of distributed ecclesial elements providing guidance of faith. A form where the power of Christ resides not in an exclusive relay from a top-down group of clerics but in the totality of the People of God. It is a distribution of contemplatory praxis and diversified ecclesiological functions. But Boff holds no illusions of a church revolution and a replacement of the Vatican.

> In other words the basic church communities, while signifying the communitarian aspect of Christianity, and signifying it within the church, cannot pretend to constitute a global alternative to the church as institution. They can only be its ferment for renewal.[48]

As such an organic symbiosis where rituals of faith flows and amplifies through the Church globally but can still be interpreted locally in elemental communities. The role of the priest is not a steady state or fixed position, but a mode of existence, of reconciliation.

Liberation of Goods

Liberation theology sees the religious subject engaged in a struggle of emancipation and reinterprets the Catholic tradition to become a tool for this strive, using faith and Jesus as an icon for identification and amplification. Instead of interpreting faith as a hallucinogen illusion it is instead an impetus for social change. A force to amplify political struggle.

[45] Boff, L. (1986) *Ecclesiogenesis*. London: Collins page 1.
[46] Boff, L. (1972) "Jesus, a Person of Extraodrinary Good Sense, Creative Imagination, and Originality" in Ferm, D.W. (1986) *Thrid World Liberation Theologies*. New York. Orbis
[47] Boff (1986) page 4.
[48] Boff (1986) page 6.

Quite similarly does some anarchist groups work with consumerism and desire in their critical interventions.

YOMANGO is a Spanish based movement commenting on consumer culture and its role in contemporary society. The name is a fusion of the clothing company mango with the Spanish slang for "I steal" and is according to the group more of a brnd and lifestyle than an organized movement. It is a lifestyle of direct action and civil disobedience, exploding the borders of accepted behavior with the aim of subverting the multinational corporations.

Their freely distributed methods of shoplifting are a comment on contemporary existence. In a world where the Descartian "I think therefore I am" is replaced by the "I consume therefore I am" it should be a human right to consume, even for those without the economic assets.

But as they see it the are primarily liberators:

> YOMANGO liberates objects and liberates your desire. It liberates your desire which is trapped within objects which are trapped inside large shopping malls, the same place where yourself are trapped. YOMANGO is a pact between co-prisoners.[49]

YOMANGO is not a movement in a traditional sense. They are neither a philosophy to "follow". It is a spontaneous happening that can occur anyplace by anybody. It is an act of self-fulfilment, creativity and sharing. As such it is not not opposing the mechanisms of consumerism, instead celebrating them, but by stealing. A carnival of desire instead of asceticism.

> Dare to desire: YOMANGO is your style: risky, innovative. It is the articulate proliferation of creative gestures. YOMANGO is not about theft, its about magic, about the liberation of desire and intelligence crystallized in the "things" offered for sale. If YOMANGO has a politics, it is the politics of happiness, of putting the body first. Be happy, insultingly happy. YOMANGO: feel pretty! [50]

YOMANGO is in this sense engaging a central paradox of consumerism, similar to the one discussed in relation to fan fiction; opposing a system through bending its power, but at the same time devote to it. Using a system of transformation (as material culture is) and in itself transform it, or transmutate it at a deeper level.

The group in itself is acting as a force of energy more than an entity or independent actor. It is not an oppositional dialectic force, not neglecting or fighting the system in a traditional way. Neither the cause nor the effect. It is instead blending and modulating it. Liberating it.

Even though its anarchistic discourse and many-faced activism proposes an opposition to capitalism, it is paradoxically praising it. The co-prisoners

[49] "YOMANGO" in Thompson, N. & Scholette, G. (eds) (2004) *The Interventionists* North Adams: MASS MoCA. page 152.
[50] "10 STYLE TIPS" at www.yomango.net

(goods and consumers) are both in the end engulfed in each others desire and magic.

In this way a traditional counter culture critic would argue that YOMANGO is a failure, and not radically opposing the "artificial" desire the system produces (consumerism as an "opium for the people"). On the other hand YOMANGO is shifting approach to a system, and engaging passive consumers in direct action. The acts are not desperate but instead full of hope. The same hope trapped in the commodities.

Constructive Assembly

The examples mentioned above are all aspects of what we might call hacking. Hacking is in this sense a direct practice of transformative action, on a physical, semantic and spiritual level. It is a critical approach and a form of constructive attention to the world, stressing the assembly, the interface and forms of in-between. In dialogue.

Hacking is by many regarded as a negative term, connoting to illegal activities and trespassing into "intellectual property". As mentioned before, in computer jargon there is a big difference between the hacker and its vicious counterpart the cracker: "hackers build things, crackers break them."[51]

It is a position not based on dialectic opposition, not anti-something, but of constructive disobedience, a critical furthering. It can also be a point of departure towards assembly, as in Vivien Westwood's punkish saying "If the cap doesn't fit, wear it".[52] This quote, seeming very "anti", is not a mere deconstruction or opposition, but suggesting a further action within the system – "wear it!" An impetus for the assembly of a new fashion arena - punk.

This position is very close to the "new role" of critique proposed by French philosopher Bruno Latour, not as a deconstructive force but one of revision and assembly:

> 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.[53]

The critic takes an operational position of building new worlds, or a reflective patching of the old. He also compares a new role of critique using

[51] Stallman, R. "how to become a hacker" at: http://www.catb.org/esr/faqs/hacker-howto.html
[52] Hedbdige, D. (1979) *Subculture: The meaning of Style* London: Methuen page 107.
[53] Latour, B. (2002) ""Why Has Critique Run out of Steam?" at http://www.ensmp.fr/~latour/articles/article/089.html

an essay by Turing explaining the first computer (or "computing"). A tool which is not simply deconstructing information but generating more than you put into it:

> Critical theory died away long ago; can we become critical again, in the sense here offered by Turing? That is, generating more ideas than we have received, inheriting from a prestigious critical tradition but not letting it die away, or "dropping into quiescence" like a piano no longer struck.[54]

Critique is then a constructive force, enriching understanding by gathering viewpoints and converging these into force plays not to create unity or consensus but instead setting them together into a "parliament of things". A thing as process instead of goal – a process of convergence rather than the product of consensus. It is not a conflict resolution but a conflict accommodation, a unity of opposing forces, as this turbulence is both creative and necessary.[55]

This view is thus close to the idea of creating publics or small societies as the core of the design process itself. John Dewey defined the public as the intelligence of the many publics jointly affected by it, and not *the one* bourgeois public.[56] Similarly can design be the enablement of assembly, of forming publics, connecting networks, protocols and wills into form (or not form). Using design as a platform for change and an arena for letting understandings, intentions, skills and wills meet in an arena for practical discussion. A parliament of palpable prototyping.

But that requires another understanding of the object and process of design means Latour:

> This would require that all entities, including computers, cease to be objects defined simply by their inputs and outputs, and become again things, mediating, assembling, gathering many more folds than the "united four."[57]

This coincides with the understanding of hacking as a practice of dialogue, a neutral place for exchanging ideas and gathers them together into a new form. Where the act of design is not a sole act of authorship but a place in-between, a facilitation of meetings, an approval of diverging viewpoints, but still forming a parliament for negotiation. This negotiation has always been at the core of objects themselves – as things. If we look at the etymology of the word "thing":

> þing "meeting, assembly," later "entity, being, matter" (subject of deliberation in an assembly), also "act, deed, event, material object, body, being,"[58]

[54] Latour (2002)
[55] Hamdi, N. (2004) *Small Change.* London: Earthscan, page 138.
[56] Dewey, J. (1926) *The Public and its Problems*
[57] Latour (2002)
[58] from Online Etymology Dictionary – www.etymonline.com

The word is itself stressing the object as "thing" - an assembly of attributes and meanings, a junction point or crossroad of intentions and readings. It is a node where flows of code *converge* rather than manifest into dominance, unity or consensus materializations.

We use cultural tools for creating and understanding our reality, such as technology, arts, metaphors and language. The tools as such are both imprisoning and liberating depending on how skilful they are used. And how they relate to other references of meaning and understanding.

The tools might not be unique but we can still use them to form a specific reading of reality. We can choose from words, reformulate ourselves, try out various acts and also choose what we think most appropriate – we are not entirely predetermined by the system even if we in fact use endless quotes of previous sentences. In his text "The Death of the Author" Roland Barthes puts it like this: "We know now that a text is not a line of words releasing a single 'theological' meaning (the 'message' of the Author-God) but a multi-dimensional space in which a variety of writings, none of them original, blend and clash. The text is a tissue of quotations drawn from innumerable centres of culture."[59] We can still find an own voice and create meanings from my own composition and the tensions between my words. I might not create a specifically new or unique image of myself, but I can still make an impression and maybe even *assembling something so far unseen*! Thus revealing another aspect of a story we all thought we knew.

Interfaces

Hacking is the creation of interfaces where fields of action becomes ready to use and at hand, unlocking a closed border to become a palpable interface. The hack is a practice that makes tools accessible and open for further explorations, revealing possibilities. Replacing monologues with a position of talking back - to engage in dialogues. The hack is this process of opening and sharing, exposing the inside of a black box, but not necessarily demystifying it. A magician's hat hacked will still be the home of rabbits, but also much more!

A dialogue is about creating an interface, a platform for performing the dialogic act, a somewhat neutral ground. This interface is a thin space or membrane of "inter", an in-between. It is not a line or border dividing as much as uniting. In itself it is an integrating force, as in "intermediality", and a space of transition focused on by Dutch philosopher Henk Oosterling where he explores "the unstable and non-discursive quality of the being (*esse*) of this in-between (inter) as inter-*esse*."[60] This space is the room for

the *Gesamtkunstwerk*, where different disciplines converge, complement and form an alloy in symbiosis.

Oosterling further argues that this in-between as factuality exists "before" any position, although we can only describe this before afterwards. It is a position of synthesis and a point of interest (*interesse*). He quotes Heidegger who means that "Inter-esse means: being with and between the things, being in-between and enduring this".[61]

As such we as persons have also become in-betweens: "former *auto*nomous *in*dividuals, have turned into [...] *di*viduals – split, cross-eyed persons (di-videre) whose lives are contractions of at least two perspectives".[62] The subject is not a whole, not in-dividual, and neither can it enforce its own (auto) rules (nomos) on itself. It is not contained within itself. We are hybrids of many forces and by the media we have invented, channelling these flows at even greater speed. Of global *and* local, virtual *and* actual, private *and* public, they are no longer opposite but merge in conjunctional forms. Being and objects come to exist at the convergence point of flows and forces. Everything as "things", parliament of forces, and meanings in the Heidegger sense.

This point of view is quite similar to eastern philosophy and the concept of "karma" as the result of actions, both from collective and subject. The subject (where the action is) is here trapped in a flow of causes and effects, processed through a certain convergence point. It is a subjective free will, entangled in the turbulence of other forces.

The dialogue happens in the in-between, it is the inter-esse between wills and intentions. In the turbulence of forces clashing. Hacking becomes a practice in the middle of it and a low-level tactic, middling between, where modding becomes the materialization of this practice.

It is a role very similar to what Gilles Deleuze calls "mediators" as negotiators and explorers of multiplicity of subjectivities. Negotiations of movement instead of constitutional states, inserting oneself into already existing movements instead of looking for steady points. Instead of dialectics a practice more similar to surfing or paragliding:

There's no longer an origin as starting point, but a sort of putting-into-orbit. The key is how to get taken up in the motion of a big wave, a column of rising air, to 'get into something' instead of being the origin of an effort.[63]

In the words of development practitioner Allan Kaplan it is the move from a position of "us and them" one of "we". It is a state of recognized interde-

[59] Barthes, R. (1977) *Image, Music, Text*, New York, NY: Hill and Wang, page 146.
[60] Oosterling, H. (2003) "Sens(a)ble Intermediality and Interesse" in *Intermedialites*. No 1, Printemps, page 31.

[61] Heidegger, M. (1954) "Was heisst Denken", in *Vorträge und Aufsätze*. In Oosterling (2003) page 45.
[62] Oosterling, H. (2005) "Radical medi@crity" in *Ba-bel, Photo Illustrierte*, Berlin.
[63] Deleuze, G. (1995) *Negotiations.* New York : Columbia Univ. Press. page 121.

pendence and mutual recognition. A hybrid condition. He further says that "harmony is attained not through resolution but through an attunement of opposite tensions … not through eradicating conflict but through dancing with conflict … We seek not compromise, but a living, continuously shifting balance by holding both polarities at once."[64]

Returning to Oosterling's interpretations of Heidegger, he furthers his argument by examining the concept of *Da-sein* which Heidegger qualifies as Being-in [*In-Sein*] and Being-in-between [*Zwischen*].[65] The *Da-sein* as in-between is a the heart of the *inter-esse.* The position of hacking and design is right there in the middle. The mediator, negotiator or meddler. Design is the same as *Da-sein.*

This is similar to the teachings of Zen monk Thich Nhat Hanh on mindfulness, a sort of heightened and embodied attention on the very moment of existence, something underlined in the creation of the "Order of Interbeing". The mindfulness is an attention to reveal the interconnectedness of life and all things through bodily action and meditation as one practice and as bridge between these sensory worlds. Interbeing is in this sense a mystic experience of being-in-the-world, interconnected and as a whole. A deep meditative presence in the interbeing, in the in-between. Something also practiced outwards and socially through compassionate listening and truthful loving speech.[66]

What might seem as a New Age or Discordian detour is an attempt to understand the materiality and platform for the hack as a playing filed of forces. The hacker as an actor refuses to see the object as a black box or closed artefact inserted in a stratified control mechanism, beyond reach or curiosity. Hacking is not accepting a petrified state, but opening the frontier, placing oneself in-between, in the flow, tune it, and using it's force to go further.

An Energizing Activity

Hacking is in a dialogic form, not in dialectic opposition. Not to operate with its object as an opponent or foe, but as a field of gravity. Not regarding a system of belief as opium, but as a path of liberation, using it as trampoline, as a line of flight and force of gravity. This central inverse force is also the one to ally with and use for ejecting a downward spiral and instead use it to shoot out of a system. As a satellite uses the gravity of a planet to launch further in space. Central to the use of a line of flight is thus the gravity of a system - the oppressive force of subjection is also the potency for liberation.

This force is an operator beyond the *point* of departure: The hacks offered

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[64] Kaplan, A. (1996) *The Development Practitioners' Handbook.* London: Pluto, page 74.
[65] Oosterling (2003)
[66] www.interbeing.org.uk, www.orderofinterbeing.org, www.iamhome.org/order_interbeing

in the examples before are not based on dialectical opposition but of modulating forces and flows. In a classic position of dialectics the opponent take a point of departure as the steadfast position from which to create an alternative, or more often, an antithesis of opposite polarity.

Instead the examples above; the computer, Star Trek, and Christian faith all work as forces of gravity and friction that exist as the *force* of departure to empower and orchestrate social change. It is this force that gives the hack power to create a larger impact than the mere size of the project. It is the force amplifying a hack into an impetus for emergence.

The lines of flight are operators, which transcend the real, and ascend to the virtual and are ejecting forces of gravity, wrestling themselves out of their chains in a Houdini move.

Hacking can thus be seen as the breaking of code, the hijacking of forces and short circuiting processes within systems. The sparkles created both act as attention drawing events to raise certain questions and provoke new viewpoints, but it is at the same time a constructive act of piracy. It is a recreation or reassembly, but preserving the original, upgrading it. That is the main difference from a classical reformation approach; hacking is preserving the independency of the original, but modulating it.

In its approach it might be breaking the codex (or intentional/dominant reading of codex-doctrines) or the physical borders of objects or property, but it is the flows underneath that is the matter of the hack. Not the node itself but he channels, protocols and connectors.

The examples mentioned before are all dealing with flows and modulations. Their main aim is not reformation but amplification and empowerment of certain frequencies and spans. Not as much the production of systems or products. Instead unfolding manoeuvres, revealing potentiality along certain lines of flight and then amplifying these to give them directions in a field of action.

To make a successful hack the hacker needs to keep the power on, to keep the flows through the system intact, to keep it functioning as a tool, but reclaiming it, submit it under his will by taming and modulating the flows through the system. Exploring its range of colours, by moving in its grey zones, in its penumbra. It is thus a manipulation of living forces, a tinkering with channels but as a re-circuiting of processes and flows. To hack is to orchestrate this change, recreating meaning and performing new scenarios. It is a dialogue, a negotiation with flows and vectors, manoeuvring though turbulence and codified circuitry.

after counterculture

Karl Palmås

In the past few years, there has been much discussion about hacking, open source, protocols and mesh networks in settings that bear little relation to actual computer networks. What do we make out of this phenomenon?

This chapter will survey this development – the emergence of a computer-like worldview – in the context of how we view the economy. It will also speculate upon whether we are experiencing a cultural shift on par with 1968, and how this shift is related to the dot.com boom of the late 1990s.

The essay comprises of two parts: the first explores instances where concepts from the world of computer networks are reshaping our understanding of economy and society; the second explores how these concepts were spread – in the business, arts and activist communities – during the new media boom of the late 1990s.

Part one will study how our understanding of business is increasingly shaped by ideas adopted from the world of computers, the Internet, hacker culture and FLOSS (Free/Libre Open Source Software). The text will primarily focus on two fields, namely corporate management and political activism. In other words, the text will argue that the new, computer network-like 'worldview' is not solely adopted by either pro-business managers or anti-business activists. Rather, there is a striking symmetry in the appropriation of the new ideas in both camps. As we shall see, this development mimics the ways in which 'the spirit of 1968' transformed not only the activist community, but also the business community.

Part two aims to explore how the logic of computer networks came to shape our thinking. Or, more precisely phrased, the text explores the settings in which the actual technical 'contraptions' of computer networks was turned into conceptual models for understanding systems in the social world, floating freely in contemporary culture, ready to be adopted by business theorists as well as activists. Here, the text argues that the new media bubble played a crucial role in spreading the new 'worldview'. Hence, this second part of the essay is also explores how the contemporary market economy produces and sells stories about itself.

I: The economy as a computer network

There are innumerable ways of critiquing the ways in which modern social science construes the economy. This text will steer clear of debates on whether modern economics or modern social theory is unduly positivist, determinist, or essentialist. Instead, it will focus on the conceptual models that are prevalent within these fields.

Motors, reservoirs and circulation

As mentioned in the introduction, Michel Serres argues that modern thought is based upon motor-like conceptual models. Just as in a steam engine, there is usually some reservoir of matter put into circulation, producing motion. If we are to study these conceptual models as they appear in cultural configurations (such as scientific theories), Serres instructs us to

> ask yourself questions like these: where is the reservoir? What is the reservoir? What is in the reservoir? What are its elements and what is their configuration? How does this reservoir function? Is it stable or metaphorical, open or closed? And so forth...

> Ask yourself a second series of questions: what is circulation? What are the circulating elements? What is the plan of the circulation system? How do the elements circulate according to this plan? By what law? In a stable manner or transformationally? And so forth...

Here are some examples of answers: the reservoir is *capital*, the quantity of energy, the constancy of force, *the libidinal reservoir*, and so forth; what can be applied to the pattern of general circulation or the circle of circles is language, speech, words, vocabulary, values, *money*, *desire*. Here are some examples of related questions: What blocks circulation? What stimulates it? Who or what governs or forms the reservoir? And so on. With these questions, varied and multiplied into several voices, you will reconstruct the entire set of interpretive organons formed in the nineteenth century.[1]

This citation about the origins of 19th century science and culture applies to Marx (capital, money) as well as Freud (libidinal reservoir, desire). Both authors have been hugely influential in founding modern social theory; both authors are still hugely influential in 'critical' circles.

However, the framework on reservoirs and circulation equally applies to classical economics. In this case, money and goods circulates through propulsion from reservoirs of self-interest (as in the case of the baker described Adam Smith), or deep psychological desire for utility- and pleasure-seeking (as in the case of homo economicus described by marginal utility theorists such as William Stanley Jevons and Vilfredo Pareto).

Interestingly, in the case of the economic theories of both Marx and John Maynard Keynes, original theories have bastardised so as to form a neat alignment with the motor-like conceptual model. For instance, it is commonly understood that Marx' original ideas were considerably less 'motor-like' than the ideas of his followers, ie. Marxists. (Hence, the saying that 'Marx was not a Marxist'.) Similarly, the economy described in Keynes' *General Theory of Employment, Interest and Money* was subsequently reduced to a hydraulic model. Robert Skidelsky writes:

> Today we can see the *General Theory* as a work of art and imagination as well as economic logic, and can treat it as an invitation to thought rather than a machine for solving crises. [...] It thus stands comparison with Marx's *Das Kapital*, another classic which will outlive the fate of its plumbing.[2]

> This double character of the *General Theory* [...] has divided interpreters of the book into what Alan Coddington happily calls 'fundamentalist' and 'hydraulic' Keynesians. During Keynes' life-time and for many years afterwards, the hydraulic Keynesians were in the ascendant. A Keynesian machine was actually built at the LSE showing the circular flow of purchasing power, equipped with injections and leakages.[3]

Hardly surprisingly, this (notorious) machine in question – the MONIAC – was built by an engineer-turned-economist, the London School of Economics professor William Philips. Incidentally, Philips is also the father of the so-called 'Philips curve', another invention that turned the *General Theory* into 'a machine for solving crises'.

[1] Serres (1982), italics added.
[2] Skidelsky, R (1992) *John Maynard Keynes: Volume 2. The economist as saviour*. London: Macmillan, page 538.
[3] Skidelsky (1992), pages 540-541.

As it stands today, mainstream economics is still heavily based upon motor-like conceptual models. In other words, the phenomenon touched upon in the introduction to this publication – that of computer network ideas seeping into our ways of seeing the world – has yet to make a mark on this particular discipline. Nevertheless, the field of management is increasingly endeavouring to describe the economy (notably business) in these new terms.

'The network' in management texts

The recent proliferation of the term 'network' in the description of contemporary society has been noted by several authors. For instance, Andrew Barry accounts for how social theorists speak of 'a society of networks', how political scientists speak of 'networks of governance' and how political activists organise as networks, and how management theorists speak of firms configured as networks.[4]

In *The New Spirit of Capitalism* Luc Boltanski and Eve Chiapello ambitiously set off to show how management texts, during the second half of the 20th century, have increasingly incorporated a 'connexionist' worldview. As late as in the 1960s, the field of management was still preoccupied with how to steer the giant corporate hierarchies that had emerged during the first half of the century.[5] Thus, management theorists were elaborating upon how the new breed of salaried professional CEOs was to plan and thus control these huge structures. This preoccupation with bureaucracy, planning and control was clearly reflected in the vocabulary they used in their key texts.

The management texts of the 1990s, on the other hand, represent an outright dismissal of such corporate hierarchies. In this way, 'the network' replaced 'the bureaucracy' as the dominant conceptual model for industrial organisation. For instance, Boltanski and Chiapello observe that 'work is said to occur in a network, for the firm's boundaries become blurred, with the organization now seeming to comprise nothing more than a mass of more or less enduring contractual links'.[6] The ideal of the planning and controlling CEO is replaced by a new breed of managers, who are

"intuitive", "humanist", "inspired", "visionaries", "generalists" (as opposed to narrow specialists), and "creative" […] The *manager* is

[4] Barry, A. (2001) *Political Machines. Governing a technological society*. London: Anthlone, page 14.
[5] Economic historians such as Alfred Chandler have showed that the 20th century implied an extraordinary shift in economic organisation, where decentralised markets of small, often family-owned enterprises were usurped by the expansion of hierarchies – ie. the modern, limited-liability corporation, run by salaried managers rather than owners themselves. See Chandler, A. (1977) *The Visible Hand: The managerial revolution in American business*. Cambridge, MA.: Harvard Belknap.
[6] Boltanski, L. & E. Chiapello (2006) *The New Spirit of Capitalism*. London: Verso, pages 74-75.

network man. His principle quality is his mobility, his ability to move around without letting himself be impeded by boundaries [...] [7]

Boltanski and Chiapello link the emergence of the new 'fluid capitalism' with the anti-authoritarian ideas put forward during the student revolts of 1968:

> The qualities that guarantee success in this new spirit [of capitalism] – autonomy, spontaneity, rhizomorphous capacity, multitasking (in contrast to the narrow specialization of the old division of labour), conviviality, openness to others and novelty, availability, creativity, visionary intuition, sensitivity to differences, listening to lived experience and receptiveness to a whole range of experiences, being attracted to informality and the search for interpersonal contacts – these are taken directly from the repertoire of May 1968.[8]

In this way, they argue that the flat and flexible mode of organisation in today's 'network economy' is the direct result of anti-authoritarian sentiments founded by '68 generation. Contemporary organisations have assumed their current form because 1) they have assimilated the critiques of the '68 rebellion, and 2) they are now run by members of this very rebellion.

Writing from an American perspective, Richard Sennett makes the same observation in *The Culture of the New Capitalism*. The new capitalism he has charted in his recent books (since the 1998 *The Corrosion of Character*) is an outcome of the aspirations of the New Left:

> The Port Huron Statement, a founding document of the New Left in 1962, was equally hard on state socialism and multinational corporations; both regimes seemed bureaucratic prisons.
>
> History has partly granted the framers of the Port Huron Statement their wish. The socialist rule of five-year plans, of centralized economic control, is gone. So is the capitalist corporation that provided employees jobs for life, that supplied the same products and services year after year. So also welfare institutions like health care and education have become less fixed in form and smaller in scale. The goal for rulers today, as for radicals sixty years ago, is to take apart this rigid bureaucracy.[9]

So, if we are to believe Sennett, Boltanski and Chiapello, the '68 generation succeeded in their aims – to promote a wholesale demolition of the hierarchical structures prevalent in the mid 20th century. Nevertheless, they all lament the fact that these developments did not make capitalism any less exploitative. Sennett states it in the following way:

> The apostles of the new capitalism argue that their version of [...] three subjects – work, talent, consumption – adds up to more freedom in modern society, a fluid freedom, a 'liquid modernity' in the apt phrase of the philosopher Zygmunt Bauman. My quarrel with

them is not whether their version of the new is real; institutions, skills, and consumption patterns have indeed changed. My argument is that these changes have not set people free.[10]

Boltanski and Chiapello note that 'the texts of the May movement were combined with a radical critique of capitalism (particularly the critique of exploitation), and the proclamation of its imminent end'. In today's new spirit of capitalism, expressed in management texts, anti-authoritarianism and autonomy are 'represented as objectives that are valid in their own right, placed in the service of forces [i.e. Capital] whose destruction they were intended to hasten'. Boltanski and Chiapello points especially to how the 'rhizomorphous ontology' of Gilles Deleuze has subsequently come to serve the interests of capital:

> At least in France after May 1968, [the 'network' philosopheme] was placed in the service of critique (particularly by Deleuze) [...] This comprised, for example, the state, the family, churches and, more generally, all institutions; but also master thinkers, bureaucracies and traditions [...] During the 1970s, this critique was almost naturally directed at capitalism, which was conflated in one and the same denunciation with the bourgeois family and the state. They were condemned as closed, fixed, ossified worlds, whether by attachment to tradition (the family), legalism and bureaucracy (the state), or calculation and planning (the firm), as opposed to mobility, fluidity and 'nomads' able to circulate, at the cost of many metamorphoses, in open networks. [11]

However, over time, the Deleuzian critique of 'strata' – and the celebration of fluid, open networks – was turned into a plea for liberation

> from all 'hierarchies' and 'apparatuses' – that is to say, both from the 'state apparatus' and from the 'apparatuses' which, like 'trade union apparatuses', had contributed to the creation of labour law, and the recognition of social classes, and the process leading to their representation in the state. (146)

Interestingly, the appropriation of Deleuze's theories on rhizomes and open networks has "only belatedly had specific effects on social theory, so that they were only really important from, let us say, the mid-1980s."[12] Here, we can only speculate on the extent to which the advent and popularisation of the Internet have 'given life' to Deleuze's ontology.[13] For example, the Internet has long been cited as a real-life example of a rhizome.[14]

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[7] Boltanski & Chiapello (2006), pages 78-79.
[8] Boltanski & Chiapello (2006), page 97.
[9] Sennett, R (2006) *The Culture of the New Capitalism*. New Haven, CT.: Yale University Press, pages 1-2.

[10] Sennett (2006), pages 12-13.
[11] Boltanski & Chiapello (2006), page 145.
[12] Boltanski & Chiapello (2006), page xxiv.
[13] The same can be said of the 'actor-network' theories put forward by Bruno Latour, Michel Callon and others. Hence, both authors are cited by Boltanski and Chiapello as 'complicit' in the proliferation of network ideas.
[14] Indeed, the notion of 'the rhizome' was frequently used to describe the Internet by professionals inside the new media agencies during the dot.com boom of the late 1990s. (Consequently, Deleuze and Guattari's *A Thousand Plateaus* was well-read in these 'business 2.0' circles.) See further discussion in part two of this essay.

Hence, the 1968 pleas for a less hierarchical society came to serve a function in this 'new capitalism'. According to Boltanski and Chiapello, 'capitalism needs a spirit in order to engage the people needed for production and the functioning of business'. As it happens, the network metaphor has come to serve as the model for this spirit: capital has, as it were, recognised it as a handy piece of discourse that makes the exploited masses to agree to a system that they should not like. The spread of the network metaphor is thus subsumed under capitalism's innate drive to reproduce itself, in spite of its contradictory and unjust Nature.

However, there are other, less functionalist and less essentialist, ways of accounting for the spread of computer network-like conceptual models. By studying specific examples of how management practicioners and theorists – as well as social activists – adopt these concepts, we can get a more open-ended understanding of this process.

Open, democratic, bazaar-like innovation

Computer network ideas are at their most evident in management theories that deal with innovation. Here, the influence of FLOSS has had a huge impact on how theorists now understand the process of innovation. Some ten years ago, the most prominent business professors still construed of innovation as a process whereby engineers in white coats came up with brilliant ideas in secluded labs, hidden inside corporate or university premises. Thus, they were still working within the paradigm set out in 1959 by Edith Penrose's *The Theory of the Growth of the Firm*, which sees firms as 'bundles of resources', subsequently dubbed the resource-based view of the firm.[15]

According to most proponents of this view, innovation is what happens when you put a team of such brilliant minds (engineers, or more generically, resources or competencies) in the same space (corporate labs, corporate innovation units) and wait for them to work their magic. Thus, during the past decades, corporations have been busy setting up 'innovation units' and in which 'intrapreneurs' can flourish. There has also been ample thought on how corporations can to profit from the innovation capacity inherent inside the firm.

Today, however, one can read articles in management magazines that explain how corporations have adapted to the FLOSS mode of innovation. For instance, consider this excerpt from a *Harvard Business Review* article, written by two representatives from Procter & Gamble:

> Most companies are still clinging to what we call the invention model, centered on a bricks-and-mortar R&D infrastructure and the idea that their innovation must principally reside within their own four walls. To be sure, these companies are increasingly trying to buttress their laboring R&D departments with acquisitions, alliances, licensing, and selective innovation outsourcing. And they're launching Skunk Works, improving collaboration between marketing and R&D, tightening go-to-market criteria, and strengthening product portfolio management.
>
> But these are incremental changes, bandages on a broken model. [...] By 2000, it was clear to us that our invent-it-ourselves model was not capable of sustaining high levels of top-line growth.[16]

The response to these concerns was so-called 'open innovation'[17]. According to *McKinsey Quarterly*, a journal published by the management consultancy bearing the same name, open innovation emerges from

> "networks of creation" (or "creation nets"), where hundreds and even thousands of participants from diverse institutional settings collaborate to create new knowledge, to learn from one another, and to appropriate and buld on one another's work – all under the guidance of a network organizer. [...] The most widely publicized example may be the development of the Linux kernel by the open-source software movement. But creation nets are also visible in more unexpected fields and places [...] [18]

Thus, the inspiration from FLOSS has been paramount in the emergence of this new 'innovation paradigm' – and corporations are increasingly developing means of profiting from this shift.[19]

Another way of conceptualising FLOSS as an innovation model has been proposed by Eric von Hippel[20], Sonali Shah and others, who choose to bring out the fact that users or consumers are engaging in the process of innovation. This body of work has shown that 'user innovation' has been around for a long time: There are many of examples of not-so-recent innovations – in automobiles, sports equipment etc. – that have emerged from users' tinkering with readymade products. It is just that before the 'widely publicized' success of the Linux project, researchers simply could not concieve of such processes of innovation.

Thus, interestingly, Linux has alerted researchers of a previously unseen mode of innovation. This is another example of a diagram or abstract machine, originally 'found' in the context of computers, being generalised into a generic conceptual model. The same phenomenon is evident in urban planning, a field that has long been dealing with the tension between centralised planning and decentralised 'self-organisation'. In recent years, many theorists and practitioners active in this field have taken to describing these structures in terms of 'the cathedral and the bazaar', following

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[15] For the original statement of this view, see Penrose, E. (1959) *The Theory of the Growth of the Firm*. Oxford: Basil Blackwell.

[16] Huston, L. & N. Sakkab (2006) 'Connect and Develop: Inside Procter & Gamble's New Model for Innovation', *Harvard Business Review*, March.

[17] Chesbrough, H. (2003) *Open Innovation: The new imperative for creating and profiting from technology*. Cambridge, MA.: Harvard Business School Press.

[18] Brown, J.S. & J. Nagel (2006) 'Creation nets: Getting the most from open innovation', *McKinsey Quarterly*, No. 2.

[19] See for example the work of innovation scholar Linus Dahlander.

[20] von Hippel, E. (2005) *Democratizing Innovation*. Cambridge, MA.: MIT Press.

Eric S Raymond's famous web essay.[21] This trend is highly visible in the work of think tanks (such as London-based Demos) and 'art tanks' (such as Stockholm-based Färgfabriken).[22]

Shah has elaborated upon the issue of why this diagram of innovation has been hidden from view since the rise of the modern economy:

> Why have we overlooked the fact that so much creative and innovative activity stems from the everyday behavior of regular people? Three factors that are likely to have played a role: [...]
>
> Firms and entrepreneurs are generally recognized as the primary agents of product change and economic progress [...] The consumer's role is a passive one: producers, not consumers, innovate and consumer preferences do not change without producer influence. [...] In broad and oversimplified terms, this is what is taught to students in management, marketing, economics, and engineering. [...]
>
> The relatively low visibility of user-innovators may have also prevented us from noticing their activities or viewing them as more than mere anomalies: while firms are likely to heavily promote their innovations to the mass market, consumer innovations are more likely to be diffused through word of mouth [...]
>
> Nobel (1977) argues that the rise of the corporation and the engineer in the 1900s led to "the deliberate creation of a consumer culture, through advertising, to absorb and diffuse potential revolutionary energies." Institutions, namely corporations, sought to identify themselves with innovation, and relegate the consumer to a passive role [23]

Towards the end of this citation, Shah touches upon the explicitly political aspects of user innovation. Indeed, a discussion of the popularisation and spread of the concept of FLOSS, and computer-derived concepts in general, also needs to delve into the ways in which these ideas appeal to activists and social critics. The remainder of this part of the essay will thus explore the ways in which the computer-like conceptual models are changing activism and critique.

The motor activism of 1968

The motor-like conceptual model has been deployed not only by economists and managers, but also by activists. As suggested above, the essential social critiques of the modern era – provided by Marx, Freud and other greats – were all based upon motor-like thought. This section will explore that suggestion further, surveying the dominant themes of contemporary social activism and critique. (The subsequent sections will trace the ways in which motor thought are giving way to the computer network thought.)

In *The Rebel Sell*, Joseph Heath and Andrew Potter argue that since the events of 1968, 'counterculture has almost completely replaced socialism as the basis of radical political thought'.[24] In other words, activists increasingly tend to prefer the countercultural political strategies of the situationist, hippie and culture-jamming movements, rather than engaging in traditional social reform. Incidentally, the same phenomenon is also observed by Boltanski and Chiapello, who argues that 'artistic critique' (of capitalist inauthenticity) has usurped 'social critique' (of capitalist exploitation). Heath and Potter traces this shift in the ideas put forward by popular authors and activists (Naomi Klein, *Adbusters* magazine), as well as in popular culture such as music (Curt Cobain, Alanis Morisette) and cinema (*The Matrix*, *American Beauty*, *Fight Club*, *Pleasantville*).

What is counterculture, then? In a series of articles in *The Nation*, Theodore Roszak chronicled 'the making of a counter culture', carefully distinguishing countercultural youth from their Marxist, liberal and militant black movement contemporaries. While the counter culture encompassed 'only a strict minority of the young and a handful of their mentors'[25], he nonetheless believed it to be the 'most important contemporary source of radical dissent and cultural innovation'[26]. He therefore exclaimed that

> I am at a loss to know where, besides among these dissenting young people [...] innovation can be found that might transform this disoriented civilisation.[27]

Roszak defined counterculture as a critique of 'the technocracy' that had emerged during the twentieth century. A technocracy, then, is

> that society in which those who govern justify themselves by appeal to technical experts who, in turn, justify themselves by appeal to scientific forms of knowledge.[28]

The main theoretical basis for the countercultural view of society was provided by Herbert Marcuse's blend of Marx and Freud, depicting industrial society as a machine of exploitation and repression. Crucially, Marcuse's ideas highlighted the ways in which culture – mass media, advertising and contemporary modes of thought – usurped any potential for critique of capitalism. Hence, Marcuse's industrial capitalism is a closed system of adjoined motors. The motor-like capitalist society described by Marx is

[21] Raymond, E.S. (1999) *The Cathedral & the Bazaar. Musings on Linux and Open Source by an Accidental Revolutionary*. Sebastopol, CA.: O'Reilly & Associates

[22] For example, leading on from its work on 'open source democracy', the Demos' tagline has become 'democratic innovation'. Similarly, *Färgfabriken Magazine*, November 2006, draws heavily on computer-like conceptual models.

[23] Shah, S. (2005) 'Open Beyond Software', in D. Cooper, C. DiBona & M. Stone (eds.) *Open Sources 2*. O'Reilly Media: Sebastopol, CA. The text that Shah is referring to is Nobel, D.F. (1977) *America by Design: Science, Technology and the Rise of Corporate Capitalism*. Oxford, Oxford University Press.

[24] Heath, J. & A. Potter (2005) *The Rebel Sell: How counterculture became consumer culture*. Leicester: Capstone.

[25] Roszak, T. (1971) *The Making of a Counter Culture. Reflections on the Technocratic Society and Its Youthful Opposition*. London: Faber, page xii.

[26] Roszak (1971), page 1.

[27] Roszak (1971), pages xii-xiii.

[28] Roszak (1971), page 8.

married to the motor-like civilisation described by Freud[29], creating a stable – yet repressive – engine. (A classic depiction of this disciplinary societal machine is provided in the movie version of Pink Floyd's *The Wall*.) The Marxian motion towards revolution created by the circulation of capital is counteracted by the Freudian motion created by the circulation of desires.

Heath and Potter uses blockbuster movie *The Matrix* to illustrate this view of culture and society. To lead a true existence, free from exploitation, one has to always opt for the red pill – the one that ejects the lead character Neo from the simulated world that is 'The Matrix', enabling him to see see the monstrosity of its underlying reality:

> Since the entire culture is nothing but a system of ideology, the only way to liberate oneself and others is to resist the culture in its entirety. This is where the idea of counterculture comes from. The inhabitants of Zion, in *The Matrix*, are a concrete embodiment of how countercultural rebels since the '60s have conceived of themselves. They are the ones that have been awakened, the ones who are free from the tyranny of the machines. And the enemy, in this view, is those who refuse to be awakened, those who insist on conforming to the culture. The enemy, in other words, is *mainstream society*.
>
> Morpheus sums up the countercultural analysis perfectly when describing the Matrix: "The Matrix is a system, Neo. That system is our enemy. The when you're inside, you look around, what do you see? Businessmen, teachers, lawyers, carpenters. The very minds of the people we are trying to save. But until we do, these people are still a part of the system and that makes them our enemy. You have to understand, most of these people are not ready to be unplugged. And many of them are so inured, so hopelessly dependent on the system, that they will fight to protect it."[30]

For the countercultural youth, the only way out of this total system (which operates as a motor) was to throw gravel into the machinery, jamming its modes of operation, thus baring the monstrosity of the machine for all of the world to see. Public demonstrations, sit-ins, subversive art and various ways of 'dropping out' mainstream culture were all different approaches to achieve this effect. Here, the obvious reference was the critical strategies – notably *detournement* – of Guy Debord and the Situationist International.

Counterculture thus implies a novel form of political action – one that deviates from traditional social activism, yet is still based upon the motor as conceptual model. Traditional social activism is a matter of collective action to implement (piecemeal) measures to regulate and the control society. Again, the conceptual model is motor-like – politics is a matter of shoring up support for an agreement on how the state (the equivalent of

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[29] See in particular Freud, S. (1989 {1930}) *Civilization and its Discontents*. New York, NY.: W.W. Norton & Co.
[30] Heath & Potter (2005)
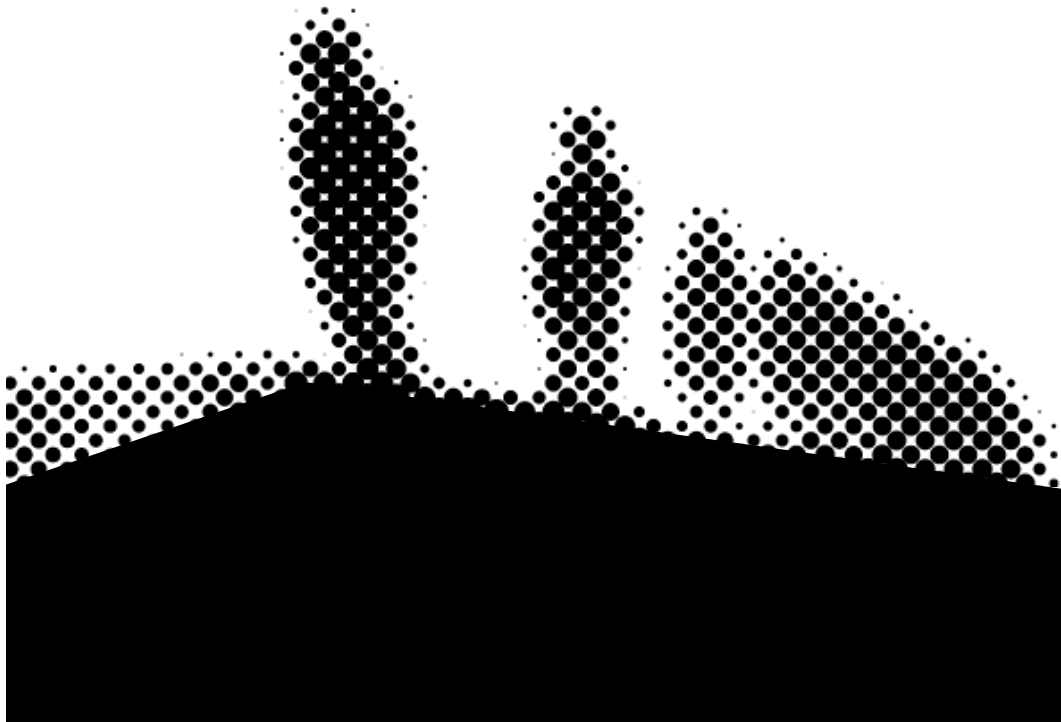
the chief engineer) is to modify the motor. Counterculture activists do not strive for piecemeal introductions of ways to make the motor circulate in new, and hopefully better, ways. Instead, they aim to 'jam' mainstream culture, blocking its circulation:

> The goal of culture jammers is quite literally to 'jam' the culture, by subverting the messages used to reproduce this faith and *blocking the channels* through which it is propagated.[31]

In other words, its aim is to 'jam' the circulation in this 'total motor' of domination and repression. It is only through the creation of jams that the subjugated masses will see that they are indeed dominated and repressed – that they are indeed subjugated under the circulations of a 'total motor'.

In this way, while the cultural shift set in motion by 1968 – the wholesale critique of authority and hierarchy, spawning new forms of politics and new ways of seeing the world – was significant, it was actually not a radical departure from the worldview that they revolted against. The countercultural revolution maintained the view of society as a motor – based upon reservoirs of fuel, differentials in pressure, circulation. Their contribution was to suggest new ways to mobilise support for the reengineering of the motor. Since the political subjects that they were trying to enrol were an active part in this engine, modifications could only be introduced once culture jams had forcibly made it grind to a halt.

Adbusters: Substituting motors for computer networks

Through the paramount success of Naomi Klein's *No Logo*, a new generation of activists have been introduced to the 'culture jamming' strategies of *Adbusters* magazine. Incidentally, the magazine is also one of the key targets for Heath and Potter's criticism. In the introduction to *The Rebel Sell*, they write:

> Founded in 1989, *Adbusters* is the flagship publication of the culture-jamming movement. [...] In 1999, *Adbusters* editor Kalle Lasn argued that culture jamming 'will become to our era what civil rights was to the '60s, what feminism was to the '70s, what environmental activism was to the '80s.'[32]

Heath and Potter's criticism revolves around the fact that *Adbusters* can no longer be called a countercultural phenomenon. In fact, their recent activist strategies signify the death of counterculture. *The Rebel Sell* starts with the following paragraph:

> September 2003 marked a turning point in the development of Western civilisation. It was the month that *Adbusters* magazine started accepting orders for the Black Spot [sic] Sneaker, its own signature

brand of 'subversive' running shoes. After that day, no rational person could possibly believe that there is any tension between 'mainstream' and 'alternative' culture. After that day, it became obvious to everyone that cultural rebellion, of the type epitomised by *Adbusters* magazine, is not a threat to the system – it *is* the system.[33]

While Heath and Potter's objections are wholly valid, it is equally important to stress that Kalle Lasn was most likely aware of this paradox. In a 2005 interview, he concedes that the activist strategies of yesteryear are 'passé':

> The political progressive left have [sic] not been effective for over 20 years. We have to create a new platform and jump over the dead body of the political left and right, that battlefield is passé. It's not selling out, it's facing facts. There are many of us that live beyond left and right. We are visionaries starting activist-businesses. That's the cutting edge of politics. Traditional activism and protests today, like politics, has lost its edge and become one big celebrity party.[34]

The promotion of 'activist-businesses' is an increasingly dominant theme in the activities of *Adbusters*, which now describes itself as 'a loose global network of artists, activists, writers, students, educators and entrepreneurs'. (Interestingly, 'culture jamming' no longer features in this description.) In the 'Big ideas of 2006' issue, the magazine speaks of 'the rise of the antipreneur':

> While giant corporations run roughshod over our lives, we whine and complain, protest and boycott. For too long we've ignored the market, written it off as enemy territory. Yet, what do mega-corps like Walmart and Coke fear most? Competition.

> We're talking about a new breed of bottom-up enterprise that runs differently: promoting ethics over profit, values over image, idealism over hype. A brand of grassroots capitalism that deals in products we actually need – and believe in. No sweatshops. No mindfucking ads. Just fair trade from sustainable, accountable companies. Run by us, the antipreneurs.[35]

The promotion of their Blackspot sneaker – the original antipreneur product – reads:

> Join us. One pair = one vote in The Blackspot Anticorporation. Together, we'll revolutionise footwear, and the move on to 'Blackspot' other dysfunctional industries – Big Music, fast food, coffee shops, clothing, you name it. We marry our passion for social activism with grassroots antipreneurial zeal and rearrange the ugly face of mega-corporate capitalism.[36]

Thus, ironically, by the time that *The Rebel Sell* was available in the bookstores, Kalle Lasn and *Adbusters* had moved on. The hallmark of the countercultural worldview – the view of capitalism as a motor-like system, only

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[31] Heath & Potter (2005), page 3, italics added.
[32] Heath & Potter (2005)

[33] Heath & Potter (2005), page 3.
[34] Augustinsson, E. (2005) 'Kalle Lasn', in Augustinsson, E. (ed.) *Global Utmaning*. Stockholm: Premiss.
[35] *Adbusters Magazine*, 'The Big Ideas of 2006' issue.
[36] *Adbusters Magazine*, 'The Big Ideas of 2006' issue.

to be transformed (and transcended) through jamming strategies – is no longer adhered to. The market – no longer a space for natural law-guided domination – emerges as a field of bottom-up, grassroots politico-entrepreneurial action. Capitalism – no longer a closed, motor-like machine that circulates capital and desire – is seen as an open structure, subject to rearrangement.

To state matters crudely: while the *Adbusters* of the mid-nineties (celebrated by Klein, critiqued by Heath and Potter) construed the economy as a motor, the *Adbusters* of the mid-noughties construes the economy as an open, reconfigurable network. How does one account for this shift in worldview? Where does activists' new-found optimism in their ability to 'rearrange the ugly face of megacorporate capitalism' stem from?

One of the key components of *Adbusters*' antipreneur strategies is the notion that, as activists share knowledge and ideas, their chances of building robust alternatives to large corporations increase considerably. These shared ideas and strategies

> will transform the antipreneurial movement, along with *open-source* counter-brands like the Blackspot, into a real economic threat to top-down corporate capitalism – through the next year, the next ten, and well into a saner, more democratic future.[37]

The focus on creating networks of knowledge-sharing, and the direct reference to 'open-source', indicates that *Adbusters* – just like the innovation theorists mentioned above – have gained inspiration from the success of the FLOSS movement. Just like hackers sharing knowledge in order to collectively hack a system – 'given enough eyeballs, all bugs are shallow', as Eric Raymond phrases it – the collective of antipreneurs share ideas in order to modify capitalism. Thus, concepts from the world of computer networks seem to have seeped into the ex-culture jammers' understanding of the world. Notions of 'open source' and hacking no longer apply just to computer networks as such – increasingly, they are applied to other social apparatuses.

The move towards using understanding the economy as a computer – and not a motor – was finalised in the September/October issue of *Adbusters*. Here, the main feature article explicitly depicts capitalism as an operating system:

> Capitalism is the almighty operating system of our lives [...] But who is in charge of this operating system? Who wrote it? Who maintains it? Who protects it from viruses? Who reboots it when it crashes? So here's the big question: can we the people – civil society – take charge? Can we rewrite the capitalist code? [...] In other words, can we turn capitalism into an open source design project and make it more sustainable and responsible to our and future generation's [sic] needs?[38]

[37] *Adbusters Magazine*, 'The Big Ideas of 2006' issue, italics added.
[38] *Adbusters Magazine*, September/October 2006 issue.
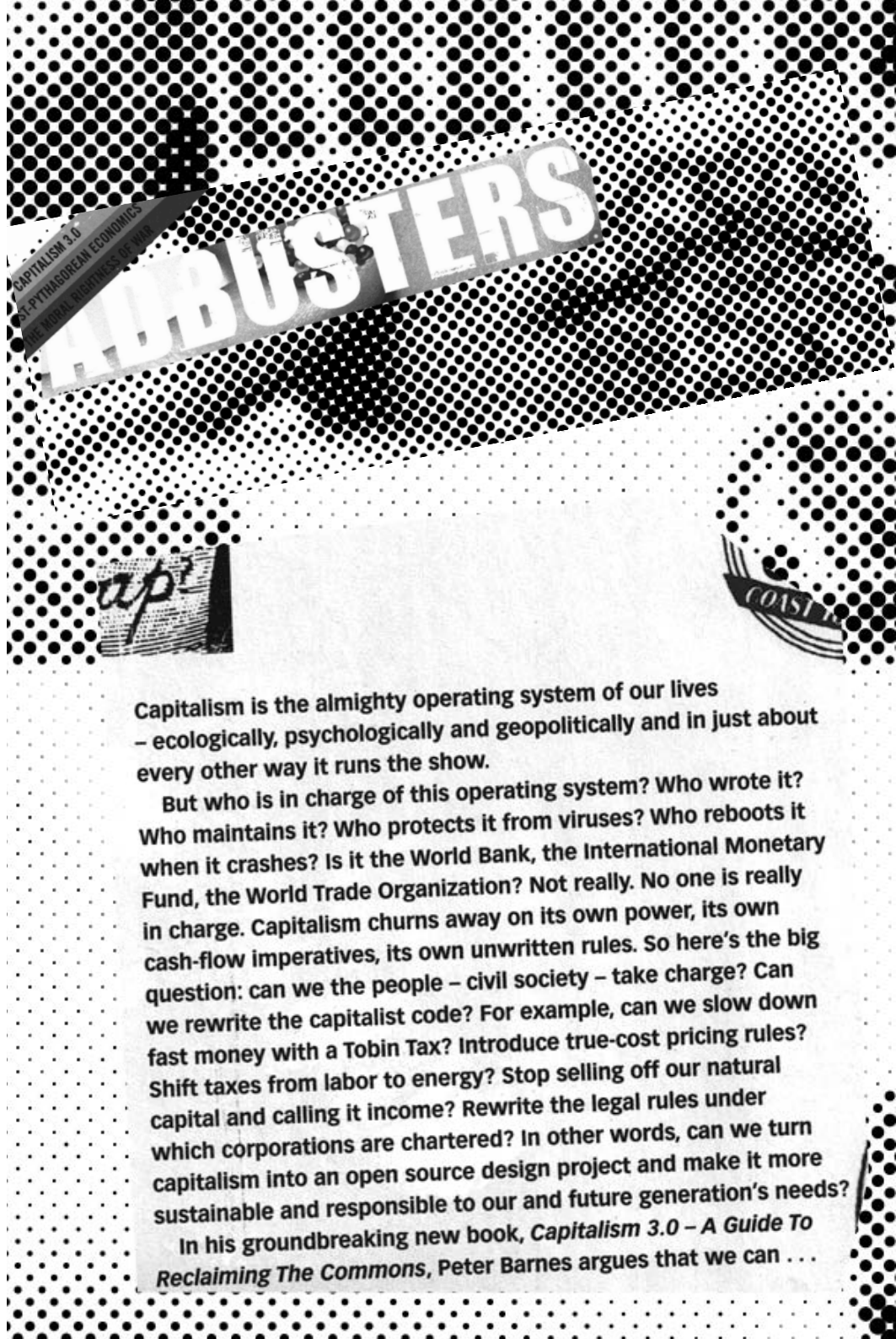
Capitalism is the almighty operating system of our lives – ecologically, psychologically and geopolitically and in just about every other way it runs the show.

But who is in charge of this operating system? Who wrote it? Who maintains it? Who protects it from viruses? Who reboots it when it crashes? Is it the World Bank, the International Monetary Fund, the World Trade Organization? Not really. No one is really in charge. Capitalism churns away on its own power, its own cash-flow imperatives, its own unwritten rules. So here's the big question: can we the people – civil society – take charge? Can we rewrite the capitalist code? For example, can we slow down fast money with a Tobin Tax? Introduce true-cost pricing rules? Shift taxes from labor to energy? Stop selling off our natural capital and calling it income? Rewrite the legal rules under which corporations are chartered? In other words, can we turn capitalism into an open source design project and make it more sustainable and responsible to our and future generation's needs? In his groundbreaking new book, *Capitalism 3.0 – A Guide To Reclaiming The Commons*, Peter Barnes argues that we can . . .

After post-modern critique: The hacker ethic

Perhaps the most interesting aspect of *Adbusters'* recent move to promote antipreneurship is its commitment – however inadvertent – to the hacker ethic. In the quote above (on building 'a real economic threat to top-down corporate capitalism') the long-term strategy of the antipreneurship strategy is to build robust competitors to large corporations – alternative structures that can latch onto the current market settings. Unlike their previous countercultural imperative to *deconstruct* the societal machine, *Adbusters'* new imperative is to *experiment* with its possibilities.

Here, *Adbusters* is joining a growing number of writers who argue that the hacker is the ideal artist/critic of the 21st century. For instance, the philosopher Manuel DeLanda – interviewed by Paul Miller (also known as DJ Spooky) – states that

> the domination of this century by linguistics and semiotics (which is what allows us to reduce everything to talk of "frameworks of interpretation") [...] has had a very damaging effect, even on art. Today I see art students trained by guilt-driven semioticians or post-modern theorists, afraid of the materiality of their medium [...] The key to break away from this is to cut language down to size, to give it the importance it deserves as a communications medium, but to stop worshipping it as the ultimate reality. Equally *important is to adopt a hacker attitude towards all forms of knowledge*: not only to learn UNIX or Windows NT to hack this or that computer system, but to learn economics, sociology, physics, biology to hack reality itself. It is precisely *the 'can do' mentality of the hacker*, naive as it may sometimes be, that we need to nurture everywhere.[39]

For DeLanda, then, the hacker ethic implies a neo-realist position that recognises the autonomous, mind-independent existence of non-human entities. In other words, as an alternative to Heath and Potter's interpretation of *The Matrix*: The point is not that we need to 'swallow the red pill' in order to become enlightened critics who see through the Baudrillardian simulacra that ordinary joes accept as 'the world as we know it'. The point is that by getting access to, understanding, and rewriting the code that underpins this world (as Neo does towards the end of the film), we can 'hack reality itself'.

Applying the hacker ethic in this way is therefore a radical break with the forms of text-focused critique ordinarily associated with postmodern thought, for example the 'deconstruction' that has become popularised through the work of Jacques Derrida. As Jonathan Rée writes in his *Prospect Magazine* obituary of Derrida:

> The word "deconstruction" enabled [Derrida's] vision of philosophy to be reduced to a childishly simple three-stage recipe. First, choose your text: anything will do – a speech, an article, a book or

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[39] Excerpt from an interview conducted by DJ Spooky, see http://www.djspooky.com/articles/essayonmanuel.html

a play. Second, spot the dichotomies on which it depends: science vs common sense, masculine vs feminine, insider vs outsider and so on. Third, note that these dichotomies cannot be justified in terms of the arguments that make use of them. Serve immediately, while observing sagaciously that every argument presupposes more than it can prove, and watch everyone's dreams of absolute certainty go up in smoke.[40]

In a conversation with DeLanda, John Protevi explicates how a Deleuze-derived neo-realist position departs from language-focused critique, arguing that

the idea that a reading that shuffles signs about, that assigns new signs to old objects without any body work, would count as a political intervention, is silly academic self-flattery. Even more delusional would be the idea that the spontaneous production of such counter-hegemonic readings by consumers of cultural products constitutes effective popular "resistance".[41]

DeLanda concludes his *A Thousand Years of Nonlinear History* by calling for an experimentalist hacker approach, citing the following quote from Deleuze and Guattari's *A Thousand Plateaus*:

Staying stratified – organized, signified, subjected – is not the worst that can happen; the worst that can happen is if you throw the strata into demented or suicidal collapse, which brings them back down on us heavier than ever. This is how it should be done: lodge yourself on a stratum, experiment with the opportunities it offers, find an advantageous place on it, find potential movements of deterritorialization, possible lines of flight, experience them, produce flow conjunctions here and there, try out continuums of intensities segment by segment, have a small plot of new land ready at all times.[42]

The imperative here is strikingly different from that of the culture jammers or the Situationist International: the aim is not to dismantle or disrupt social processes, but to modify them in a very tangible manner.

The hacker ethic also differs from traditional means of political activism. As an illustrative example, I have argued elsewhere that 2006 Nobel Peace Prize laureate Muhammad Yunus has produced lasting, tangible change through an approach that is similar to that of the hacker.[43] The development of Yunus' Grameen Bank – and of microcredit in general – is a great achievement in the furthering of global justice. Nevertheless, this development has (at least until the Nobel prize) yielded considerably less attention than issues such as debt cancellation and the Tobin tax, partly because it has not been congruent with the incumbent views of how politics is to be waged.

[40] Rée, J. (2004) 'Farewell Derrida', *Prospect*, November.

[41] DeLanda, M., J. Protevi & T. Thanem (2005) 'Deleuzian Interrogations: A Conversation with Manuel DeLanda, John Protevi & Torkild Thanem', see http://www.dif-ferance.org/Delanda-Protevi.pdf

[42] Deleuze, G. & F. Guattari (1987) *A Thousand Plateaus*. Ann Arbor, MI.: University of Minnesota Press, pages 160-161.

[43] See Palmås, K. (2006) 'Att hacka ekonomin' ('Hacking the economy'), *Glänta*, no. 1-2.

Learning from the worker movements of the early 20th century and the protest movements of '68, we have come to believe that social change can only be produced by the enrolment of huge crowds to participate in protests – protesting on the streets, participating in sit-ins, and so on. The story of Yunus' Grameen Bank does not fit into this mould (especially if you employ a Deleuzian and/or Latourian-cum-Callonian ontology to analyse it): Rather than a purely social movement, microcredit is a socio-technical movement, enrolling humans as well as non-humans (such as financial instruments). Rather than a symbolic event (a display of public dissent; an event that throws gravel into the societal machinery) it is a tangible, techno-cultural innovation. Rather than seeing the system (the world of finance and banking) as a motor that follows pre-defined modus operandi, Yunus saw the economy as an open structure (or, if you will, an assemblage), whose mode of operation can change if new components are plugged into it. Most crucially, Yunus was naïve enough to develop innovations for this system, even though the essentialist Natural laws that are said to govern the system would suggest that such hacks are impossible.

The rise of the hacker ethic is not only visible within social activism, but also within contemporary art. In *Postproduction. Culture as screenplay: how art reprograms the world*, art critic Nicolas Bourriaud argues that the hacker and the 'deejay' are today's cultural and political heroes. For Bourriaud, the most interesting contemporary artists are the ones who – like hackers and deejays – engage in the 'post-production' of work. These artists present artworks 'created on the basis of preexisting works', and thus engage in art practices that 'interpret, reproduce, re-exhibit, or use works made by others or available cultural products'.

Like DeLanda, Bourriaud envokes Deleuze in his account of how the hacker-/deejay-inspired ethic leads us towards a new form of critique, which is

an attitude, an ethical stance more than a recipe. The postproduction of work allows the artist to escape the posture of interpretation [as assumed by the post-1968 critic]. Instead of engaging in critical commentary, we have to experiment, as Deleuze asked of phychoanalysis: to stop interpreting symptoms and try more suitable arrangements.[44]

Bourriaud therefore contrasts this kind of reuse of existing art with previous practices of reusing existing artworks – notably the practices of Situationist-inspired artists. 'There cannot', he states,

be a 'Situationist art', only a Situationist use of art, which involves its depreciation. *The Report on the Constructions of Situations...*, which Guy Debord published in 1957, encouraged the use of existing cultural forms by contesting any value proper to them. *Detournement* is 'not a negation of style, but the style of negation'… a 'game' made possible by 'devalorization'.

[44] Bourriaud, N. (2002) *Postproduction. Culture as screenplay: how art reprograms the world*. New York, NY.: Lukas & Sternberg.

> While the *detournement* of preexisting artworks is a currently employed tool, artists use it not to 'devalorize' the work of art but to utilize it.[45]

In the preface to the second edition, he responds to his critics by explicating this distinction further:

> Regarding Postproduction, I have often heard the argument: "This is nothing new."
>
> It's true, citation, recycling, and *détournement* were not born yesterday; what is clear is that today certain elements and principles are reemerging as themes and are suddenly at the forefront, *to the point of constituting the "engine" of new artistic practices.*[46]

In other words, more than the practice of artistry (the reproduction, re-exihibit, reuse of previously existing works), it is the overall abstract mechanism – 'the engine' – of artistic work that has changed. Again, this abstract mechanism was previously 'locked' in certain physical contraptions (ie. computers) and has now spread into the domain of art practices.

This claim by Bourriaud nicely sums up the thrust of this part of the essay – in the past decade or so, various cultural spheres have adopted the abstract mechanisms of computers in their understanding of the world. Thus, management theorists adopt FLOSS as the model of product innovation, activists start to construe capitalism as an operating system, and artists adopt the hacker attitude as the model of critique.

Bourriaud argues that the recent 'emergence of a new cultural configuration, whose emblematic figures are the programmer and the DJ' is the result of 'the democratization of computers and the appearance of sampling'[47]. The second part of this essay will examine this proposition in closer detail: In what practical ways have this translation of the computer diagram – from technical contraption to conceptual tool for understanding – taken place?

II: The dot.com boom and the new worldview

As mentioned in the introduction, this second part of the essay will explore how the new media boom of the late 1990s played a crucial role in spreading the new 'worldview' described in part one. The text will interrogate specific sites and practices associated to the bubble, with a view to understand how these practices ended up propagating the view of the world as a computer network. However, before delving into these three sites, the text will provide a brief contextualisation of previous accounts of the boom.

[45] Bourriaud (2002), page 37.
[46] Bourriaud (2002), pages 8-9, italics added.
[47] Bourriaud (2002), page 35.

The economy telling stories about itself

Since the bubble burst, there have been several accounts of the rise and fall of the dot.com boom. In these texts, authors tend to focus primarily on a number of ugly traits of the late 1990s. Joseph Stiglitz[48] and John Kay[49] laments that such blatant greed that was allowed to dominate (notably in the case of corporate scandals), while John Cassidy[50] deplores the ways in which corporations and financial markets fooled ordinary citizens into spending their money on 'next big thing'. Similarly, though in a more nuanced tone, Rory Cellan-Jones[51] has written about the spin-astute and image-aware new media heroes of the IT boom.

One particular way of critiquing the dot.com boom is to dissociate the boom from the more recent popularisation of grassroots new media technologies. For instance, Julian Priest and James Stevens describe the rise of Free Networks (or 'freie netze') in the following terms:

> Following the dot.com boom, a period of distorted values and valuations where everything touched by the Internet lost its connection to geographic and economic realities, there came a crash in 2000. Independent and ground-up approaches to new technologies emerged in its wake, and wireless networking was one of these. Wireless free networking came as an antidote to the commercial pipe dreams of telcos and investors, and with its focus on the ownership of infrastructure and local and co-operative action, it can be seen as a grounding of Internet utopianism in something real, useful and manageable.[52]

From this perspective, the new media bubble is construed as a used party cracker; as an historical event that has left 'little behind but confetti and empty champagne bottles from dotcom launch events'[53].

In contrast to the above perspectives, this part of the text will argue that the new media boom had a lasting cultural impact. More specifically, it will describe how the vast amounts of resources – financial and human – deployed during the boom years of the late nineties cannot be understood simply as 'bad investments'[54] or 'the greatest story ever sold'[55]. This flow

[48] Stiglitz, J. (2003) *The Roaring Nineties: A New History of the World's Most Prosperous Decade*. London: Allen Lane.
[49] Kay, J. (2003) *The Truth about Markets. Their genius, their limits, their follies*. London: Allen Lane.
[50] Cassidy, J. (2002) *dot.con: The greatest story ever sold*. London: Allen Lane.
[51] Cellan-Jones, R. (2001) *dot.bomb. The rise and fall of dot.com Britain*. London: Aurum Press.
[52] Priest, J & J. Stevens (2004) 'Trip the loop, make your switch, consume the net', in G. Cox, J. Krysa & A. Lewin (eds.) *DATA Browser 01. Economising culture: On 'the (digital) culture industry'*. New York, NY.: Autonomedia, page 123.
[53] Medosch, A. (2004) 'Society in ad-hoc mode: decentralised, self-organising, mobile', in G. Cox, J. Krysa & A. Lewin (eds.) *DATA Browser 01. Economising culture: On 'the (digital) culture industry'*. New York, NY.: Autonomedia, page 137.
[54] Stiglitz (2003), page 17.
[55] Cassidy (2002)

of resources (or, if you will, matter-energy) actually did achieve lasting material effects on our social worlds. Indeed, as will be argued below, the boom and the rise of new ways of construing political struggle (as in the case of *Adbusters Magazine*) are tightly intertwined.

One approach to making this argument is the one applied by Richard Sennett, who argues that the boom left a crucial cultural stamp on society:

> At the end of the 1990s the boom began to go bust, as is usually the case in any business cycle. As the economy sobered up, however, it became evident that the global growth spurt had left an enduring trace [...] This stamp is as much cultural as structural.[56]

Sennett describes the cultural shift set in motion during the boom in terms of how the government concieves of the welfare state. In *Knowing Capitalism,* Nigel Thrift also proposes that the bubble years of the nineties left an enduring trace, causing him to argue

> against the current tendency of those on both the left and the right to write the new economy off as nothing but a chimera, either because it did not produce large increases in productivity, or because it was mainly media-driven hype [*pace* Cellan-Jones], or because it was an enormous financial scam [*pace* Cassidy]. [...]
>
> I would argue that the new economy represented the first concerted global discursive operation of the cultural circuit of capital which involved attempts to describe itself to the world (as the 'knowledge economy'), to persuade itself that this was what the world was like, and to extend this to the rest of the economy, and indeed to the world at large.[57]

In other words, the boom years were a time when the constituent parts of the economy – corporations, journalists, economic observers, industry experts, dot.com entrepreneurs – were eagerly telling a new story about itself. Indeed, Thrift suggests that

> perhaps the new economy's most lasting legacy will prove to be the boost it gave to the unfolding of a digital environment [...] through the metaphorical practices of computer code.

On a similar tack, this essay will show how the computer-like conceptual models were intensely propagated during the boom years (though it uses the term 'worldview', rather than 'environment' as used by Thrift). More specifically, it will show how flows of investment in the late nineties financed certain practices that described, explained and spread the virtues the properties of new media technologies. In this way, the 'motor' way of seeing the world was increasingly usurped by the 'computer network' worldview.

The aim here is not to provide a functionalist explanation of how 'Capitalism comes up with a new spirit to prevent its own self-destruction' (as proposed by Boltanski and Chiapello). Nor will it try to interpret the under-

lying meaning of the shift towards a society that understands the economy as a computer; it will not ask 'what this culture says about contemporary society'. Instead, borrowing from Steven Johnson's description of his *Everything Bad is Good for You*, the approach will be

> systemic rather than symbolic, analysing the forces that bring about a certain cultural form, and not decoding its meaning.[58]

In the effort to describe 'the making of a hacker culture', the text will try to sketch a number of economic, technological, social and cultural forces that led to the propagation of the new worldview. Hence, it will explore both discursive and material elements in this shift. In particular, however, the text will study the modus operandi of economic institutions that had an interest in spreading the new worldview.

The next section will thus chart some of the findings from a research project conducted during the fall of 1999.[59] The text surveys the ways in which stories of 'innovative' brands and bright technological futures were peddled on Wall Street during the financial boom. It also explores why there was such a glut of capital amassed during the the late nineties. As we shall see, all the negative aspects of the boom years are all too visible in this story – greed, hype and scams were indeed rife. Nonetheless, the section leads on to the question of where all this investment in technology – and in storytelling – went.

The following section is an account of the new media boom, as experienced in cultural settings. In particular, the section explores the ideas that circulated in 'wider' culture of the San Francisco Bay area during the summer of 1999. Thus, it surveys how magazines such as *Wired*, exhibitions at the SF MoMA, new books published and so on all served to popularise new understandings of the world.

Thereafter, the text will describe the work conducted by new media agencies in places like London and New York (roughly around 2000 and 2001). Here, the aim is to study how work implied thinking up new ways in which new media would change the world – and how these ideas were peddled to clients.

Finance: Generating the flow of resources

Today, economic observers increasingly agree on the factors that stimulated the new media boom of the late nineties: first, the overblown, bubble-type hype around the new media technology; second, the deregulation of both financial markets and the telecommunications industry that swamped

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[56] Sennett (2006), pages 7-8.
[57] Thrift, N. (2005) *Knowing Capitalism*. London: Sage Publications, page 12.

[58] Johnson, S. (2005) *Everything Bad is Good for You. How today's popular culture is actually making us smarter.* London: Allen Lane, page 202.
[59] The section is based upon interviews conducted during my studies of innovation management.

the new media industries with risk capital. Together, they led to the generation of a vast flow of resources to activies that – inadvertantly – came to contribute to the shift in worldview.

In *The Roaring Nineties: A New History of the World's Most Prosperous Decade*, Joseph Stiglitz argues that the new media boom was

> a classic bubble, asset prices unrelated to underlying values, of a kind familiar to capitalism over the centuries. [...] Bubbles are based on a certain irrational exuberance, and perhaps not since the days of the tulip bulb mania had the irrationality of the market been more in evidence, as investors paid billions of dollars for companies that had never shown a profit – and likely never would.[60]

In hindsight, one finds it hard to believe that professionals in business and finance bought the stories about how the Internet and the computer revolution would change the fundamental laws of the economy. John Cassidy states it bluntly; 'just a couple of years ago many intelligent Americans believed that the marriage of computers and communications networks had ushered in a new era of permanent peace and prosperity'[61]. How can such a blatantly 'irrational' myth be allowed to propagate itself so thoroughly?

The 'irrationality of the market' mentioned by Stiglitz is best understood as something that emerged as a systemic property of the late nineties economy, rather than a malady that emanated from single individuals' failure to be rational about the future of the Internet. The new media bubble was to a great degree a result of hype-generating mechanisms that are still inherent in our economy. As it happened, it was in several actors' interests to overstate the importance of the marriage of computers and communications networks.

For one, corporations themselves were spending tremendous amounts of money on telling journalists, financial and industry analysts, commercial partners and consumers how influential their technologies would become. Due to the radical uncertainty regarding the matters at hand – noone actually knew whether e-commerce would make it big, or whether WiFi or Bluetooth would become standard technologies – corporations had vested interests in peddling their particular vision of the future. The merits of 'winning the mind share', as it was referred to then, of the journalists and financial analysts lay in the fact that high share prices had become the primary strategic concern for high-tech companies. Will Hutton cites one example of this phenomenon:

> Telecommunications manufacturer Lucent was tempted by the prospect of ephemeral stock market gold to try to turn itself into a digital, web-based provider of internet access equipment and software, using its own ludicrously high share price to acquire a succession of internet companies.[62]

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[60] Stiglitz (2003), pages 9-10.
[61] Cassidy (2002), page 1.
[62] Hutton, W. (2003) *The World We're In*. London: Little, Brown, page 147.

Thus, one of the special circumstances of the 1990s was the heavy reliance on a cycle of 1) boosting your company's valuation through talking up your technologies, 2) using that premium valuation to buy small technology firms with your own shares, and 3) hopefully living up to the profit expectations that come with the inflated valuation. Due to the prevalent notion that technology had to be aquired (and not just developed in-house), mergers and aquisitions had risen at an extraordinary rate – in 2000, there were 5000 mergers in the US, twice the amount of a decade earlier.[63] In this development, investment banks played an important role in promoting this trend – hardly surprising, considering the fact that they make their living from facilitating such deals.

The novel aspect of the boom, as far as corporations were concerned, was then that corporate valuation – or, more specifically, the ability of a corporation to talk up its share price – was a strategic asset. (This also meant that companies whose valuation was lagging its compatitors would eventually be aquired by other firms.) Hence, public affairs and investor relations departments, and communications budgets, grew ever larger. Moreover, so did the sophistication with which corporation peddled their messages. Communications departments at high-tech companies such as Lucent grew ever more proficient in knowing just how far the truth could be stretched when talking to journalists and financial analysts about their technologies and future projections.

Corporations also became more shrewd in getting journalists to visit corporate labs, assisting them in writing vivid reports about the wonderful inventions and inventors that inhabit such labs. Judging from interviews conducted with public affairs professionals at Lucent during the fall of 1999, getting media coverage of Bell Labs was one of the key strategies to build a media hype and boost the share price. In a similar vein, CEOs were increasingly used as 'corporate representatives' rather than actual decision-makers. Again, in the case of Lucent, top management made a conscious effort to spend as much time as possible doing investor relations- and public affairs-related work, i.e. attending meetings with financial analysts and journalists.

The journalists, on their end, were benefitting nicely from the resurgence in economic activity, notably in reporting from the financial dealing and wheeling in the high-tech industries. More than anything, the newspapers such as the *Wall Street Journal* and *Financial Times* competed on the basis of providing readers with scoops regarding Initial Public Offerings, mergers and acquisitions. In turn, this led corporations to start construing in financial manouvres as publicity stunts: 'In the old days, firms went public because they needed money to expand, but in the 1990s IPOs had turned into marketing events'.[64] However, again due to the radical uncertainty of the technological development, journalists were hard pressed to question some of the stories peddled to them from corporations during the procla-

mation of M&As, IPOs, product launches and the like. More often than not, they would simply report from any of the ever more sophisticated events.

Similarly, financial analysts were also hard pressed to seriously question the stories put forward by corporations. However, there was a small clique of influential analysts who made a name for themselves in describing the new economy to a wider audience. These star analysts were often to be found in television studios, appearing on any of business and finance shows that had also grown popular in parallel with the boom. As John Kay writes:

> Bloomberg television is a visible manifestation of the rise of popular capitalism in the last two decades of the twentieth century [...] With the aid of Bloomberg television, this strong economic performance [of the 1990s] was translated into an extraordinary stock market boom.[65]

In other words, in and around the Wall Street set, there were several actors who contributed to the preaching of the new gospel – actors who all benefitted from telling these stories in a convincing manner.

> Wall Street's own enthusiasm thus created a self-fulfilling prophesy and apparent virtuous circle. Because markets believed in the privately led, entrepreneurial economic transformation they were prepared to deploy vast sums of private risk finance in the service of technological innovation [...] the stock market was essential to the high-tech revolution – and the high-tech revolution was equally essential to the bubble.[66]

As already mentioned, the huge resources deployed into the boom were also the result of a grand-scale deregulation of the economy. The process of deregulation had been a long time coming. It started with the advent of the shareholder value ethic in business during the late 1970s, continued through the emergence of junk bond-financed hostile take-overs and 'leveraged buy-outs' (as pioneered by Michael Milken) in the 1980s. This general development was finalised by the 1999 repeal of the Glass-Steagall Act, originally established as a part of Roosevelt's New Deal in order to prevent financial speculation (through separating commercial and investment banking). These factors compounded to free up an unprecedented amount of risk capital.

Along with the general deregulation of financial markets, the 1990s also saw a thoroughgoing deregulation of telecommunications. Will Hutton has argued that 'the now vastly expanded role of money in American politics' opened the door for telecommuncations corporations to push for a new, liberalised Telecoms Act. In other words,

> if [the Democratic Party in the US] wanted to receive the largesse of the PACs or political action committees, they would have to talk the language of deregulation and liberalisation. By 1995 AT&T was the largest single PAC donor, and the lobbyists for deregulation were the cream of former White House staff from both main parties. [...]

[63] Hutton (2003), page 136.
[64] Cassidy (2002), page 81.

[65] Kay (2003)
[66] Hutton (2003)

The Telecoms Act was the trigger for the most infamous financial bubble in world financial history, which would ultimately waste […] $1000 billion of real cash around the world in absurd investment – and yet more trillions of dollars in falling telecoms share prices.[67]

Stiglitz also believes that 'too much of our investments went into wasteful public expenditures'. These investments

were just part of the telecom race to achieve early dominance, and the monopoly power that was assumed to come with it. It is still not clear how much of the private so-called investment of the 1990s was sheer waste, but even if we consider that only a fraction of the erosion in stock values is attributable to bad investments, the figure must be in the hundreds of billions of dollars.[68]

Still, where did all this 'absurd' and 'wasteful' investment go? From the account so far, one can assume that some of the money went into the so-phisticated system through which corporate representatives, journalists and financial analysts spread the gospel of computers and the Internet. The following sections will focus more on how these flows of resources reached actors such as new media creatives, artists and activists, who all contributed to the spread of the computer worldview.

Culture: Wired and the digerati

In the previous section, Wall Street – or, more generally, the financial market – was described as the conduit of the resources that fed the new media bubble. San Francisco and Silicon Valley, on the other hand, was the place where the initial hype of the bubble was created. The Bay Area was, after all, the home of the key technologies that fed the boom. As important, in the context of this essay, is the fact that this area also acted as a cultural hub for the emergence of the computer-based worldview. Nevertheless, these cultural processes were also fed by some of the resources generated through the financial bubble. Again, one cannot dissociate the new world-view (and recent critiques of capitalism as 'the almighty operating system of our lives') from the financial wheeling and dealing of Wall Street.

For anyone visiting San Francisco in the summer of 1999, the atmosphere of the dot.com boom was all too evident. For one, there was strong air of gold rush frenzy: For instance, *Newsweek* ran a cover story on the middle classes fretting over the fact that 'everyone is getting rich but me'. However, beyond the money-go-round, the San Francisco visitor would also find new ideas circulating – at university campuses, in arts museums, in the public discussion. In the centre of this culture, in some ways defining it, was one publication – *Wired Magazine*.

Today, one will rarely hear new media artists and activists commenting upon *Wired* in an appreciative manner. After the boom burst, the ad-heavy publication has been billed as 'techno-utopian' and 'neo-liberal' (echoing

Richard Barbrook and Andrew Cameron's 1995 critique of the magazine[69]) and 'the voice of the rich, highly educated capitalists'[70]. Nevertheless, these same artists and activists tend to cite *Wired* as the publication where they first heard of certain key concepts. Neo-liberal or not, the publication was highly influential in serving as a conduit of new ideas and giving voice to a new set of theorists.

For instance, artists like DJ Spooky (mentioned above regarding an interview with Manuel DeLanda) was covered at lenght already in 1994, pre-dating the artists that inspired Nicolas Bourriaud to write *Postproduction* (also mentioned above). In a *Wired* essay written by Hugh Gallagher, DJ Spooky describes scratching as a practice of taking

"this received object from corporate culture and then putting your own take on it. Instead of receiving as a passive consumer, you begin to transmit." […] "The idea is to have it so subtle that you don't know if it's you scratching or the record scratching. You blend yourself into it. I put my own imprints on all these songs, and then change them. In a certain sense it's beyond computer hacking. It's reality hacking."[71]

From this article onwards, DJ Spooky featured regularly in the magazine, by 1999 referred to as a member of the 'digerati' – 'a critical mass of doers, thinkers, and writers, connected in ways that they may not even appreciate, who have a tremendous influence on the emerging communication revolution'[72]. The 'digirati' that *Wired* wrote for and about may well be modelled upon the ideals of Silicon Valley capitalists, but nevertheless these people have had an immense impact on contemporary culture.

Thus, the success of *Wired* is crucial to understanding how notions of 'read-write culture' and 'reality hacking' reached a wider audience, peddling a new worldview that was not to be found in other publications. In other words: '*Wired* helped to create the culture that it reported on. It made no pretense at objectivity or historical perspective.' (Cassidy, 2002: 44) As in the case of the corporations and the investment banks on Wall Street, it was in the interests of *Wired* to overstate the potential of new technology. Indeed, it is this very fact that made it such an influential player – attracting capital, subscribers and readers.

In their critique of *Wired*, an essay titled 'Californian ideology', Barbrook and Cameron describe the magazine as promulgating a 'a mix of cybernetics, free market economics, and counter-culture libertarianism'. However, in hindsight, the most interesting aspect of this time was that the counter-cultural influence was beginning to wane. In some very fundamental ways, the ideas promoted by *Wired* in the late nineties deviated from the '68 cri-

[67] Hutton (2003), page 204.
[68] Stiglitz (2003), page 17.

[69] Barbrook, R & A. Cameron (2001) 'The Californian Ideology', in P. Ludlow (ed.) *Crypto Anarchy*, *Cyberstates and Pirate Utopias*. Cambridge, MA.: MIT Press.
[70] Cassidy (2002), page 45.
[71] DJ Spooky cited in Gallagher, H (1994) 'The DJ is the filter', *Wired*, no. 8, vol. 2.
[72] Brockman, J. (1996) *Digerati*. San Francisco, CA.: Hardwired, cited in R. Barbrook (2006) *The Class of the New*, page 91.

tique of the technocratic society. One example of this phenomenon is the populartity of graphic designer Tibor Kalman. In a 1996 *Wired* interview, Kalman elaborated upon his views on how to achieve social change:

> Let's face it: we live at a time when government is less and less powerful, less and less effective, and the agent of social change, at least for the immediate future, is the corporation. So people are going to have to figure out ways to co-opt corporations, to trick them into doing socially responsible things. *Colors* was a very good example of that.[73]

Colors, then, was the Benetton-sponsored magazine on social issues that Kalman edited between 1991 and 1995. During his time as editor,

> Kalman attempted to use communication techniques long ago refined by advertising – arresting images, short blocks of copy – to transmit progressive 'leftist' ideas to his 15 to 25-year-old readership. [...] *Colors* functioned as a temporary platform for his own political message-making, while his host, Benetton, picked up the awesome tab.[74]

Rick Poynor describes *Colors* as Kalman's 'Temporary Autonomous Zone' (along the lines of Hakim Bey's 1991 essay) – existing as an unnoticed parasite in the body of its host, moving to another TAZ once as the original one is recognised and shut down. The key point, in this instance, is that Kalman insisted that the world is not as closed and disciplined as the traditional countercultural analysis would have it.

In 1999, the San Francisco Museum of Modern Art put up a large-scale retrospective of Kalman's work, titled *Tiborocity*. Along with this exhibition, a book – *Tibor Kalman: Perverse Optimist* – was released. (Needless to say, the book was plugged in advance by *Wired*.) In the introduction, Kalman makes the following statement:

> By now, virtually all media, architecture, product and graphic design have been freed from ideas, individual passion, and have been relegated to a role of corporate servitude, carrying out corporate strategies and increasing stock prices. [...]
>
> Magazine editors have lost their editorial independence, and work for committees of publishers (who work for committees of advertisers). TV scripts are vetted by producers, advertisers, lawyers, research specialists, layers and layers of paid executives who determine whether the scripts are dumb enough to amuse what they call the 'lowest common denominator'. [...]
>
> Corporations have become the sole arbiters of cultural ideas and taste in America. Our culture is corporate culture.
>
> Culture used to be the opposite of commerce, not a fast track to 'content'-derived riches. [...] creative people have their work reduced to 'content' or 'intellectual property'. Magazines and films become 'delivery systems' for product messages.

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[73] Wieners, B. (1996) 'Color him a provocateur', *Wired*, Vol. 4, No. 12.
[74] Poynor (2000), pages 237-238.

But to be fair, the above is only 99% true.[75]

In this quote, Kalman starts off with 'traditional' critical theory-inspired, countercultural, '68 critique of society (much like the one that has resurged through the publication of Naomi Klein's *No Logo*) – up until the very last sentence, which changes the meaning of the text. The societal 'disciplinary system' is not as total as the countercultural analysis would have it. Instead of smashing the system, Kalman offers 'a modest solution: find the cracks in the wall.' The corporations are omnipotent, yet at the same time open to interventions. The technocracy is a reality, but not a totalising one. There will always be openings for change and reinvention.

During the same year, 1999, a number of books emerged – all inspired by the computer world, all alluding to similar analysis of the world: Eric S. Raymond's hugely influential *The Cathedral and the Bazaar*; *Open Sources: Voices from the Open Source Revolution* (featuring texts by Richard Stallman, Linus Torvalds, as well as Raymond), and *The Cluetrain Manifesto*. Although the writers of these books (less so in the case of *The Cluetrain Manifesto*) stressed the fact that they were writing about software, and not society, these texts provided their readers with novel and evocative mental images, with which to navigate their social worlds.

These evocative books, together with the ideas put forward through conduits such as *Wired*, people who were active in new media circles were increasingly describing corporate capitalism in new ways. Monopolistic, bureaucratic, disciplinary, sluggish, and slightly laughable cathedrals were increasingly challenged by self-organising and intelligent bazaars of hackers, activists or consumers. While imposing and powerful, economic power structures ought not to be described as rigid motors, but as a hackable computer networks.

Work: Selling the new media logic

A great deal of the resources generated through the financial markets also made its way into start-up Internet companies. For young graduates, the prospect of setting up a venture of their own emerged as *the* thing to do. Even at places like Harvard Business School, a future as an Internet entrepreneur was more popular than a highly-paid career as investment banker or management consultant. This was partly due to the avid support from venture capital firms, which willingly put money into the hands of young, would-be entrepreneurs. 'Before the advent of the Internet, VCs had often demanded that entrepreneurs put a third of their own net worth into their companies. By the middle of 1999, the VCs were competing with one another for the privilege of financing the next Internet business plan that came through the door, and all prior rules had been suspended.'[76]

In the end, of course, not all young people went on to set up their own firms: the proclamations of a 'free agent nation' were somewhat overblown. Nevertheless, the huge expansion of new media start-ups implied that, for the generation of young people entering working life, there was an abundance of new media jobs to choose from. At the same time, the more established industries did not provide the same career prospects, nor did it seem as exciting: why bother with trying to climb the rigid, baby boomer-infested hierarchies of traditional business, when you can spend your working day lounging in a cool loft, where all your colleagues (including the CEO) are your own age?

In *No-Collar*, a study of work at new media agency Razorfish in New York, Andrew Ross describes how the young employees had actively shunned traditional business insitutions – both business schools, where one supposedly finds 'the most morally and ethically challenged human beings you could imagine'[77], as well as big corporations. Indeed, as Razorfish (like all other new media agencies in 2000 and 2001) suffered from the bursting of the dot.com bubble, employees were not so much afraid of losing their job at Razorfish – they were afraid of having to work for big business. As one 'fish' put it:

> 'If it goes down the toilet, where am I going to work next? In what hellish corner of corporate America?'[78]

In workplaces like Razorfish, there was a strong feeling of the new media world being different from traditional business. This became more evident as the free culture of the agency was clamped down upon, following a reorganisation instigated by professionals from traditional business. One employee states that,

> we had a sudden influx of people who wore blue shirts and khaki pants, and who questioned the quality of our work. They assumed that they had been brought in to teach us what professionalism really was and make us value the things they valued. Well, it turned out these MBA types were not all that great, their solutions did not help the company, and they had a cancerous impact on the culture.[79]

The distinction between the two camps was partly a belief in 'a different way of doing business', as well as an attachment 'to the Internet's mythology of democratisation'[80]. Believing in the revolutionary effects of new media was obligatory; after all, the widespread belief that the world will be changed by computer networks is what kept companies like Razorfish in business.

The same belief in the world-changing potential of the Internet was evident inside a similar new media agency, Deep Group, based in London. The

[75] Kalman, T. (2000) 'Fuck committees (I believe in lunatics)', in P. Hall & M. Bierut (eds.) *Tibor Kalman: Perverse Optimist*. New York, NY.: Princeton Architectural Press, page 27.
[76] Cassidy (2002), pages 235-237.

[77] Ross, A. (2004) *No-collar. The humane workplace and its hidden costs*. Philadelphia, PA.: Temple University Press, page 72.
[78] Ross (2004), page 80.
[79] Ross (2004), page 238.
[80] Ross (2004), page 226.

enterprise of this outfit followed a two-pronged operation: first, elaborate upon all the ways in which new media would change the world; secondly, convince clients that the agency knew how to help them make sense of this world. In practice, of course, these two activities were mutually reinforcing: the agency existed on the basis of preaching the new media gospel, and got corporate clients to supply it with the funds – as well as organisations and operations – with which to carry out its experiments.

Working at Deep Group, specifically the strategic consultancy branch of the outfit, implied doing research on new trends emerging within new media. More than that, the work also implied tweaking these trends; thinking creatively about their potential development. In other words, this meant extrapolating the trends into the future, as well as translating them into new settings. Again, as in the case of large corporations like Lucent, or investment banks on Wall Street, it was in the interest of the agency to overstate the future implications of new technology. Coming up with a steady stream of outrageous ideas implied more clients (to secure future revenues), more media coverage (to secure the image and brand of the outfit), and more finance (to secure growth).

In this way, the agency saw itself as a think tank on the new media revolution. Ideas would be communicated in a variety of channels – in everything from reports and pitches for clients, to columns in the *Financial Times*. While the aim was to build on the reputation of the agency, and ultimately to win more consultancy hours, the agency thus contributed to spreading the new computer-like worldview to the masses.

The efforts to convince clients that the agency had a good grasp of these developments were interesting in themselves. Traditional management consultancies woo their prospective clients with classy offices, expensive suits and a reputation of attracting the top MBA gratduates from the top business schools. Deep Group, on the other hand, got clients because they were associated the new media world emerging around new media in trendy Shoreditch (where their offices were located). More than simply being young and sporting assymmetrical or 'Hoxton finn' hairstyles, the Deep Group people claimed their credentials from being an active participant in the new cultural forms emerging in the area – mash-up DJing, DIY culture and so forth.

So, during the late 1990s and early 2000s, a great number of twenty-somethings entered working life – and spent their leisure time – in these settings. For the members of this generation, knowing how new media would 'change everything' was not only an entry ticket to a happening cultural scene – it was also the safest way to secure an income.

Concluding comments

This essay has made two propositions: first, that key moulders of opinion in business as well as in arts and political activism seem to be adopting a worldview that construes the economy as a computer; second, that the new media boom of the late 1990s seem to have propagated the spread of this worldview. This raises at least two interesting theoretical issues. First, what does this tell us about how market economies deal with new technologies? Secondly, what is the relation between the cultural shift established around '68, and the one established around '99?

Is the economy a sentient device?

As far as market economies are concerned, one can only concur with what many observers have written about the dot.com boom: there was a massive 'overinvestment' in new media technologies during the late 1990s. However, this overinvestment cannot be dismissed as resulting from the actions of a few incompetent individuals. On the contrary, this overinvestment seems to be a systemic property of contemporary economies. As shown in the second part of the essay, there were several actors (corporations, investment banks, media companies, new media consultancies) who all benefitted from fuelling the telling the story about the 'new economy', and the world-changing abilities of its underlying technologies. (Conversely, there was little to be gained from arguing that the Internet would be insignificant.) Thus, American and European economies seem to have the ability to amass huge resources to fund any kind of activity related to 'the next big thing'. By implication, similar bubbles are likely to appear when bio- and nano-technologies come closer to fruition. In the face of new sources of radical uncertainty, the same pattern – with corporations, investment banks, media actors, and consultancies preaching the new gospel – will reoccur.

However, the peculiar trait of the new media boom was the fact that it financed the speading of a new worldview. The tulip bubble, or the boom that preceded the 1929 crash, are not remembered as funders of new paradigms of thought – but perhaps the dot.com boom will be. Similarly, while the establishment of motor-like modes of thought were interconnected with large investments in steam engine-driven apparatuses during the 19th century, the popularisation of motor-like thought seems to be less connected to a particular bubble. Note: This is not to disregard the fact that computers and computer networks have been around for the past fifty years. The key point here is that never before has such vast resources of money and labour, under a period of a few frenzied years, been funneled into activity related to a new technology.

Viewed from this perspective, Western market economies are not only special in the ways that they divert huge resources to new sources of wealth-generation – it also has a propensity to divert money and labour to new

modes of thought. Or, as in the case of the dot.com boom, it amassed huge resources to produce a cultural shift. In this way, the economic system – including scheming investment bankers and media-spinning public affairs departments – can be viewed as a thinking, conscious, sentient device. Or, as Nigel Thrift describes it, during the new media boom, the economic system had a 'knowing' character – endogeneously coming up with stories to describe itself.

Was '99 our '68?

With regards to the comparison between '68 and '99, one can first state that both are examples of years that roughly demarcate a cultural shift. Historians such as Konrad Jarausch have argued that the concept of '68 is partly a postconstruction:

> From an historian's point of view, much of the literature on 1968 is rather disappointing. The further the occasion recedes into the past, the more nostalgic and inconclusive reminiscences of sixty-eighters as well as media restagings during various anniversaries become.[81]

For instance, in terms of geopolitics, 1968 was, considering its iconic status, a relatively uneventful year – in no way does it compare with, say, 1989. Moreover, even if we disregard geopolitics, 1968 wasn't even that eventful: rather, it was the whole period of the late 1960s that produced a powerful legacy. As Mark Kurlansky writes in his biography *1968*:

> In history it is always difficult to attribute changes to a certain year. There was 1967 and 1969 and all the earlier years that made 1968 what it was. But 1968 was the epicenter of a shift into today's postmodern media-driven world.[82]

In other words, beyond the misconceptions about the year 1968, we also have to acknowledge that the late 1960s made a lasting impact on Western culture. As hinted in part one of this essay, these few years saw the baby boomer generation mounting a furious attack on authority – and this critical approach to hierarchies has stayed with us since then. As Jarousch describes it, the year should be seen as shorthand for a 'cultural shift'. The notion of '68, he argues,

> might best be understood as a transformational experience, a kind of "cultural revolution". Since the political system was not overthrown and economic structures remained in place, sceptics might deprecate it as a mere "epiphenomenon". But such minimizing fails to explain the symbolic force of the date, which suggests that one look for other, less tangible indicators instead. What actually changed were individual consciousness, social style, and cultural temper, a whole wealth of ideas and attitudes, of personal and in-

terpersonal relationships. [...] This transformation is part of a wider cultural shift [83]

People simply did not see the world in the same way after this period, and events like the Prague spring and the Paris May protests became romanticised symbols of this shift.

In a similar way, we can state that 1999 was the epic year during which many – but not all – of the key events of the dot.com boom happened. As already mentioned, this was the year when concepts such as open source and the hacker ethic reached the mainstream: For instance, books like *The Cathedral and the Bazaar*, *Open Voices*, and *The Cluetrain Manifesto* were published. *Matrix* was released. The operating system Linux was recognised as a work of art at technology and art festival *Ars Electronica*. It was also a time when the mainstream culture had picked up on the Internet boom. Young people's interest in becoming Internet entrepreneurs was soaring. Moreover, the business side of the bubble was going at full throttle. Stock markets peaked (before the six-year upward trend buckled in the new year 2000). Venture Capital activity also peaked. Daytrading was at its most popular (unfortunately causing highly publicised personal tragedies). Interestingly, this was also the year that some of the key ideas underpinning web 2.0 – such as RSS – were launched.

If we use '99 to symbolise the late nineties in the same way that '68 has come to symbolise the late sixties; how do these compare?

First of all, there are interesting parallels between the emergence of the '68 and the '99 worldviews – for instance, in the ways that these 'new ways of seeing the world' have been embraced by both business and activists. In this respect, '99 is *like* '68. Moreover, there are also ways in which '99 is a *continuation* of '68. After all, the activists and artists who now see the world as a computer to be hacked have retained the general position that is critical towards hierarchies.

This is a crucial point, given the fact that of the contemporary discussion within the left has reverted back to a staunchly pro-hierarchy position. In this essay, there are numerous examples of authors who have proclaimed that the New Left project to dismantle authorities has failed. Boltanski and Chiapello points to the ways in which the '68ers are responsible for the breakdown of the Keynesian compromise. Heath and Potter end *The Rebel Sell* in the following way:

> In the end, civilisation is built upon our willingness to accept rules and to curtail the pursuit of our own individual interest out of deference to the needs and interests of others. It is deeply distressing to find that a misguided commitment to the ideals of the counter-culture has led the political left to abandon its faith in this – the bedrock of civilisation – just at a point in history when it has become more important than ever. [84]

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[81] See for instance Jarausch, K.H. (1998) '1968 and 1989: caesuras, comparisons, and connections', in C. Fink, P. Gassert & D. Junker (eds.) *1968: The world transformed*. Cambridge: Cambridge University Press.
[82] Kurlansky, M. (2005) *1968: The year that rocked the world*. London: Vintage, page 378.

[83] Jarausch (1998)
[84] Heath & Potter (2005), page 342.

In his summing up of *The Culture of the New Capitalism*, Richard Sennett sounds even more pro-hierarchy:

> It was ironic that the New Left took aim in the 1960s at the military-capitalist-socialist behemoth because this was the decade of bureaucratic triumph [...] Looking back, the first sixty years of the twentieth century appear [to be the age of] the military machine, violent and self-destructive on the battlefield, triumphant, however, in the factory and the office.[85]

He therefore concludes that 'what the New Left might have learned from Bismarck, or from military service, was that strong ties can flourish under quite impersonal conditions'[86]. While these arguments are understandable in the context of the failed New Left strategy of 'throwing gravel into the machinery' of society, this despondency is not very appealing. Progressives ought not to be faced with a forced choice between countercultural strategies that do not yield the desired outcomes, on the one hand, and a harking back to a military-inspired hierarchical society, on the other.

This is where the spreading of computer-like conceptual models open up new routes forward: '99ers can circumvent the forced choice between countercultural posturing and a withdrawal back to pro-hierarchy planning. In this way, '99 is a *break* with '68. As we have seen in part one of this text, this implies that the children of the '99 revolution shun the 'throw gravel into the machinery'/'swallow the red pill'/deconstruction methodologies that their parents invented. Instead, they employ a hacker attitude towards reality, exploring new forms of activism and critique. A key point here is that the '99ers are as interested in reconstruction (of self-organised structures) as in deconstruction (of hierarchies). Drawing from organisational principles from the world of computers, they are interested in engaging in hands-on building of tangible structures, hoping to patch something up that will be more open than the military-hierarchical structures of the twentieth century.

What about the future prospects of these '99ers? Well, first of all, someone will have to come up with a catchy name for them and the new worldview they represent. The first half of this essay has pointed to the diversity of channels through which this new computer-like worldview is seeping into the mainstream, which leads us to think that this is less of an organised 'movement' than the counterculture was. After all, if we are to believe Theodore Roszak's depiction of the matter – either you were a part of the movement, or you were not. Thus, the counterculture he was charting embraced 'only a strict minority of the young and a handful of their mentors'.[87]

Nevertheless, to paraphrase Roszak's hopeful praise for the countercultural youth – the '99ers do constitute our most important contemporary source of radical dissent and cultural innovation. I am at a loss to know where, besides these hacker-minded people, innovation can be found that might open up this cathedralised civilisation.

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[85] Sennett (2006), page 180.
[86] Sennett (2006), page 182.
[87] Roszak (1971), page xii.

outro on opium

This concluding outro will revisit the two key themes that feature in the title of this book: Abstract hacktivism, and the making of a hacker culture.

The text surveys certain key features of abstract hacktivism, as it was explored in the previous essays. It will also explore further practices in contemporary society that are similar to such abstract hacktivism.

The outro will also comment upon theoretical issues that emerge from the idea of "the making of a hacker culture". To what extent is this idea techno-determinist, and to what extent are the computer-like conceptual models applied by various practitioners simply metaphorical? The chapter is concluded with a discussion on issues of Machiavellian power games that are easily forgotten when discussing hackers and the politics of new media.

Stay inside, use opium, and keep the power on

One way of connecting the two essays in this publication is to explore the interrelations between religion (discussed by von Busch in the context of liberation theology), and economic systems (discussed by Palmås). Indeed, this connection has been explored before, perhaps most famously in Max Weber's works, but Walter Benjamin also argues that there is a strong link between the logic of religion and the 'logic of capitalism'. It can be argued that religious thinking is responsible for the rise of capitalism, as Weber claims, connecting Protestantism with early capitalism. Giorgio Agamben suggests (through a reading of the fragmented text "Capitalism as Religion" by Benjamin) that capitalism is, plain and simple, a new religion, a final step in religious thought, which can only be fought with profanation.[1]

To follow Benjamin's argument he means capitalism is a pure cult religion, perhaps the most extreme and developed, that has so far existed.[2] The whole world and all meanings are connected to the cult and has a position and a price, and all meanings are direct dogmatic, no interpretation or theology needed. In this religion God is not dead, but instead totally at level with humans, pulled to the capitalist destiny of man. Capitalism started in this sense as parasitic on religion, not only on Calvinism, consolidating the two logics into one. That is, according to Benjamin, why we today see "saints" on every banknote today.

An interesting shift in economic virtues is pinpointed by the craftivists and their knitting resistance. Here, the "working ethic", the drive for economic success, the will to work hard and habit of not spending on frivolous self-indulgence (proposed by Weber as the spirit of capitalism), has been replaced by its opposite. Where laziness in Weber's and later '68 times could be seen as subversive – "dropping out" or getting "off the grid", today the practices of hackitivism is stressing action, and action outside of the big economic system. Instead it is focusing on the small scale, on economics of self-reliance, cooperation, and self-organization. Contemporary Puritanism (in Weber's sense) is about spending through activist business and through anti-preneurship.

It is in this context the comparison between hacking and liberation theology can reflect the economic practices of contemporary global anti-market capitalism. As doctrines and hard-coded Digital Rights Management systems are inserted into the codex of the day there is a need for expanding a space for reinterpretations. A need for semi-organized networks of heretics.

Orders of heretics has been connected to resistance before, perhaps most known through situationist writer Raoul Vaneigem's book *Movement of the Free Spirit*, commenting the heretic movement of Amairicians of the 12th and 13th century.[3] In Vaneigem's reading this was a very diverse movement, some groups proposed their own Messiahs. Social revolutionaries and manically anti-authoritarian, proposing the destruction of the Church and the liberation of the divine free spirit in every human, abolishing property, marriage, and other enslaving orders anyway neglected by the rulers. In the popular book *Lipstick Traces*, culture critic Greil Marcus emphasizes their libertarian aspects, as well as their resistance to work, comparing them to Dada, Surrealism, and primarily – Sex Pistols and Punk.[4] It is partly from these writings the popular slogan among autonomous anarchists to "never work", as the CrimethInc collective of "Ex-workers", relating this to a heresy towards the capitalist system.[5] From this point of view, Adbusters' Blackspot Sneakers is of course is a sell-out to the system.

While Heath and Potter's *The Rebel Sell* provides an apt critique of this perspective, their rendering of popular culture tends to portray the countercultural worldview as more hegemonic than it actually is. As Palmås writes regarding their analysis of *The Matrix*: The key "message" of the film is not necessarily that we are all dupes in The Matrix. Equally, the key message could be that, by learning and understanding its code, you can 'hack reality itself', and use The Matrix so that it fits your own purposes.

Emphasizing it once again, what we see with heresy (and hacking) is the tactic of keeping the power on, keeping the faith (even if it is "opium for the people") intact, opposing not the energy of the system, but the hegemonic order and control of the system. Hackers are not subverting the root or core, but instead reconnecting the flows, because it is in these that the power for change can be short-circuited and used.

Small change and abstract hacktivism

The essays in this publication do not feature an exhaustive list of all artistic, activist och designer practices that more or less resemble the practice of hacking. Indeed, the texts are simply discussing illustrative examples of a wider shift. One practice that does not feature in the texts – due to the fact that it neither design-related, nor management-/anti-capitalist-related – is Small Change, an approach to instigate social change in the developing world.

Small Change proposes that, instead of massive aid projects of dams or infrastructure, efforts are spent on a larger set of fields to help build assets. Also to see development as a set of small projects in emergence and with collaborative engagement. Catalysts and street level tactics of enablement instead of grandiose planning manifestations.

[1] Agamben, G. (2005) "Profanazioni" in *Ord & Bild* no. 5, 2006.

[2] Benjamin, W. (1921) "Capitalism as Religion", in *Selected Writings*. Cambridge: Harvard Univ. Press. 1996

[3] Vaneigem, R. (1994) *The Movement of the Free Spirit.* Zone – see also Cohn, N. (1957) *The Pursuit of the Millenium.* London: Mercury

[4] Marcus, G. (1990) *Lipstick Traces.* Cambridge: Harvard Univ. Press

[5] www.crimethinc.com

It is a modus operandi of assembly, working at many fronts at the same time. Collecting curiosities and forming alliances of small changes – a hopeful format to encourage a hacker-like '99 mentality. It is important, however, to note that this approach emerged decades ago, before the new media boom. (This thread will be picked up in the next section.)

Small change is a method applied in development aid systems, for achieving real, relevant, and lasting change, reaching more people through less resources. The concept of "small change" is in development projects relating to improvised and immediate small-scale actions. It is participation from below in limited issues (a bus stop, compost bin etc) that later grows into a large-scale and long term practice, as the collaborations grow sophisticated and intelligent over time. The goal is not to create a massive movement, but more to encourage and "tip over" those who are close to act 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.[6]

It is a practice combining idealism with pragmatism, creating synergies and emergence – looking for multipliers. The single small action can turn out big as in a metaphor by Buckminster Fuller where he compared his practice to a "trim tab"; a small piece of the rudder that manages to turn a whole ship around. But Bucky also suggested practitioners to "dare to be naïve".

It is a decentralized practice of enablement and empowerment building capacity instead of providing finished packages of aid, which often lead to dependency.[7] Instead of a monologue aid of "be like us" forced and speeded modernization a small change approach is harmonizing small efforts to reach a wider aspect of improving the livelihoods and assets of in the relief-development continuum.[8] Enabling rather than providing.

Small change as a design and development practice has no end. It is a starting point of empowerment, but the output of the process can indeed be small scale, community based, visible and tangible. "Start small and start where it counts."[9] By co-developing themes, theories, tools and techniques the participants are engaged in the process and able to influence it through every step. Not only to support the building of houses but also improving health, providing security, building community and generating income. It is a practice supporting self-organized informal markets as well as the shipping of material, closely participating with the inhabitants.

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[6] Hamdi, N. (2004) *Small Change.* London: Earthscan, page xxiii.
[7] Hamdi (2004)
[8] Hamdi, N. lecture at Eden Project, Cornwall, Sept 2nd 2006.
[9] Hamdi (2004), page 139.

Keeping the project flexible is a key issue for letting it merge into larger programs or in synergetic modes emerges into new shapes.[10]

An important concept in small change is the building or sharing of community, a common or public shared a local social group. It is building links between people, establishing a common scene or shared experiences. A space between collective and subject, where there is room for maneuver also for personal growth. In development projects it is a matter of safe keeping assets built by the participants, where the sense of community is as important as the physical building (of for example shelter). Identity is something also growing out of community, either as a group or as the conscious (or symbolic) separation of a group. The community is the basis for social emergence and also a possible "bank" for the economic enablement of a social group. It can be the basis for micro credits or the establishment of an own complementary currency (as the LETS, Local Exchange Trading System).

In this way small change and hacking is a point of connection between a sole actor or small intervention with a larger scale system, or organized network. It is not proposing that an actor can change the world, neither that the system is almighty and totally dominant. Instead it is positively naïve in its engagement with the world, hopefully avoiding a cynicism that easily petrifies engagement as conflicts spread and complexity grows. But these small efforts still need organization to form synergies and become a tangible force.

For creating the synergies for small change and development Hamdi encourages developers and designers to seek "multipliers", the negligible modifications that creates substantial change. These multipliers can be acts of moderation or creation of interfaces that become catalytic processes. It can be social points and projects stimulating convergence, a soft approach instead of building structures. Moving a bus stop instead of building another empty community house, or supporting a self-organized recycling unit instead of implementing another municipal institution. A multiplier is in this sense like a catalyst (or intercalary element) that provokes a meeting, inserting itself between (aiding growth "from within" or "from in between") two chemical substances to facilitate interaction and trigger an auto-catalytic loop.[11] It is a loop not only self-stimulating but also self-maintaining, connecting "mutually stimulating pairs into a structure that reproduces as a whole".[12] It is sustainable because of the low scale engagement, as a "scratching of one's own itch". A complementary mode of hybrid co-stimulation, finding converging, empowering operators and models.

[10] Kirkby, O'Keefe, & Timberlake (1995) *The Earthscan Reader in Sustainable Development.* London: Earthscan.

[11] DeLanda, M. (1997) *A Thousand Years of Nonlinear History*. New York, NY.: Zone, page 62ff and page 291f

[12] DeLanda (1997), page 62.

Hence, it is a model of multiplying capacities and accumulative small changes, "starting where it counts", with the daredevil design dream of creating a trim tab, but most often just doing the small effort one can do.

The parallels between hacking and Small Change raise an important theoretical issue: What is the connection between actual computer networks and abstract hacktivism? Has the former created the latter? Is it the actual technical contraptions that come to represent models of thought, or is there something else going on in this picture?

Techno-determinism and metaphor

There are (at least) two theoretical issues that arise from these essays: first, is this rendering of contemporary culture is techno-determinist one; secondly, is the use of computer-like conceptual models concrete, or purely metaphorical?

As mentioned in the introduction, Serres' argument, as put forward by DeLanda, may at first sight seem to be based on a crude technological determinism. Techno-determinists traditionally argue that technologies appear, seemingly out of nowhere, and change our social worlds. (For instance, technologies may disrupt the modes of production in capitalism, or how humans engage in social interaction.) Similarly, Serres' reasoning may appear to state that technologies appear out of nowhere to change our worlds of thought – notably cultural expressions and the humanities.

Nevertheless, as briefly hinted in the introduction, one could equally state that the motor-like abstract machine may well have existed in literature before it existed in actual motors. Moreover, from a Deleuzian perspective, the abstract machine exists in the virtual world before it exists in the actual world – before it is actualised either as a motor, or as a narrative in a novel (as in the case of Zola's work, described by Serres).

In the essays of this publication, in particular the essay by von Busch, it is interesting to see how hacktivism chimes with earlier cultural movements. Thus, the hacker culture sketched in this publication could just as well be given another label – based on liberation theology, or earlier leftist thought. It just so happens that in contemporary culture, the hacker vocabulary well-known, and therefore the most convenent way of describing this conceptual technology.

In his essay, Palmås cited historians who claim that '68 is a romanticised event that has enabled us to assign a certain vocabulary to describe a certain conceptual apparatus. (A conceptual apparatus that, at that point, already had been modelled upon motors.) Similarly, '99 may come to serve a similar function for assigning computer network terms to describe a new conceptual apparatus. From this perspective, the new media boom simply popularised, and assigned a new set of terms to, ideas and logics that were already in existence, though not actualised in computer networks.

In other words, the idea of "the making of a hacker culture" does not imply that computer networks are the "root cause" of the abstract hacktivism sketched in this book. Again, from a Deleuzian standpoint, it existed before computers existed. Due to the contingencies (or the "nonlinear flows") of historical development, it just so happened that this abstract machine was actualised within, and popularised in the social context of, new media. Consequently, given another set of historical contingencies or bifurcations, this publication might have had a different title. In that case, this text would have discussed activists, artists and designers whose inspiration came from a different breed of technical contraptions (or from a set of literary texts) – yet whose practices are still based on the same abstract mechanism discussed above.

The issue about techno-determinism is related to the second issue – the one about computer-like conceptual models as metaphorical or concrete. Indeed, DeLanda argues, one of the key points of Deleuze's realist ontology[13] is to study the concrete processes that give rise to form (*morphogenesis*), rather than having to rely on human agency and the use of metaphor. However, on the other hand, this implies a radical "post-humanist" perspective, and – at that – claims that may be difficult to substantiate. It is easier to get away with claiming that an artist, activist or author is *inspired* by computers, rather than claiming that her or his mode of thought is actualising *the same diagram* as the one actualised by new media technological contraptions.

As for the text in this publication, it is up to the reader to choose how to understand this material. In other words, one can choose to interpret the phenomena discussed in this publication as a new set of "empty" metaphors that are circulating in contemporary culture. In this case, these metaphors are added to other more or less useful tools that humans use to understand their world. Sometimes the human actors will be successful reaching their aims by following the hacker worldview – sometimes they will not be. However, one could argue that the more these metaphors spread, the more they will become useful – they become the "standard" way of seeing the world, used and sanctioned by the vast majority of social agents.

Alternatively, the reader can choose to believe in the existence of Deleuzian abstract machines in a virtual world. Hence, the texts (especially the one by Palmås) tend use the expression "computer-like conceptual model", rather than "computer-inspired metaphor" – whereas the latter expression suggests that the phenomena discussed is a matter of humans knowingly shaping their worlds on the basis of metaphors from computer technology, the former expression leaves a larger space for interpretation.

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[13] This includes the concepts of abstract machines, as well as the delineation of the real into the actual and the virtual.

Machiavelli and the hacker culture

In conclusion, we feel a word of caution is called for. When writing about the wonderful world of hackers and DJs, FLOSS and free networks, self-organisation and emergence, one is easily blinded by the allure of these ideas. Consequently, this account of abstract hacktivism and the making of a hacker culture would be somewhat lopsided unless the power issues at stake in this shift are discussed briefly.

While many of today's most interesting ideas can loosely be labelled "post-humanist" (inasmuch as they steer clear of anthropocentric renderings of society that fail to appreciate the role of non-human actors in accounting for social structure), it may be worthwhile to survey the power structures generated in this field.

Here, we are less concerned about Boltanski and Chiapello's claim that the "rhizomatic ontology" popularised by new media is helping Capitalism to find a "new spirit" for itself, thus propping up a system ridden with self-destructing tendencies. Instead, we are more concerned with the effects of the incessant local-level Machiavellian power games. As with all shifts and disruptions, some actors are set to win and others set to lose on the shift sketched in this publication. A future development where one cathedral after the other is turned into a bazaar is threatening to many actors, and some – especially the powerful ones – are already doing their utmost to keep structures intact.

Therefore, those of us who are appealed by the promise of an open, hackable, "destratified", self-organising world should not kid ourselves into believing that we are onto something that these threatened actors are not. On the contrary, as has been showed in this publication and elsewhere, everyone – not least big anti-market institutions/corporations – are increasingly seeing the world as a computer. As such, the "computer worldview" is not something that only the "good guys" can utilise – rather, it emerging as a new rulebook.

On a general level, this is reflected in the field of management, where explicitly "anti-market" strategies are becoming more and more common. This threatens to not only stifle innovation, but also – more importantly – infringe on civil liberties and free speech. More specifically, anti-market institutions are becoming better at disarming the self-organising structures that have caused us to celebrate in recent years.

Indeed, bazaar structures have proven fruitful in the creation of a number of things – most notably the operating system Linux. But recently, we have seen how the "forking" of projects (splitting of interests within a software project leading to separate programs or protocols) has caused the level of engagement in these projects to decrease. This splitting is often counter-productive and stalls the innovation process as the engaged manpower per project is decreased. Whether anti-market institutions are involved in this

development is uncertain: in any case, this is an example of the issues at stake, and the political battles being fought around them.

This leads us to our final point. At this point, we are still early in the development of some kind of understanding of how self-organised structures work. After all, the emergence of well-functioning bazaars is still a highly contingent process – especially if one compares it to the precision and meticulousness with which we have learnt to build cathedrals.
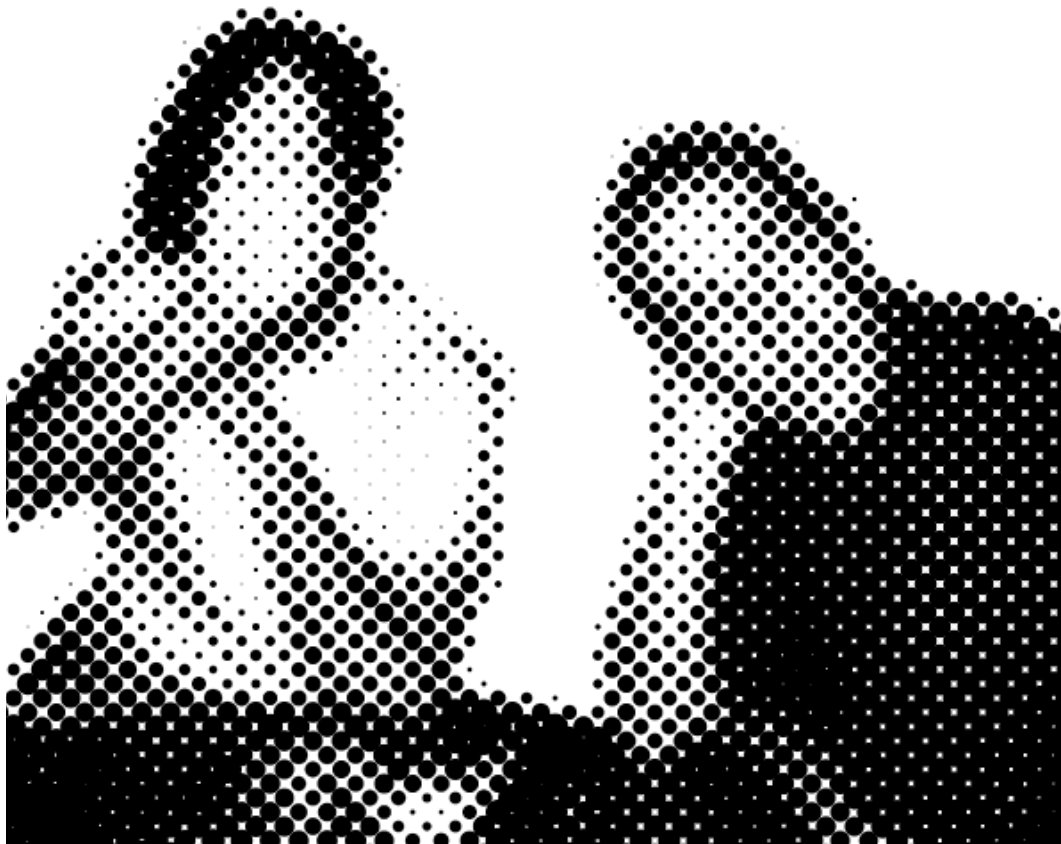
As the text in this book has shown, more and more artists, activists, and designers are seeing the merits of creating bazaar-like structures that can take the place of cathedrals. Looking forward, the challenge is to learn how to use these concepts in practice, not as mere metaphors. This publication is just a tentative effort, along with a number of other similar efforts. Going forward, we need to build a much deeper understanding of the 'bazaar' diagram, in order to single in on the specifics of abstract hacktivism.

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