New Network Theory

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Collected Abstracts & Papers

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PLENARY LECTURES

The Googlization of Everything: How One Company is Shaking Up Culture, Commerce and Community

Siva Vaidhyanathan

What does the world look like through Google? More to the point, what cultural, political, economic, and technological theories might we invoke to make sense of this new information lens -- a profitable company that seems benign yet increasingly functions as a public utility? This presentation considers the ways that Google has crafted an egalitarian public image while generating stunning revenue reports. As Google continues to disrupt and challenge established powers such as big media companies (Viacom) and big publishers (Bertelsmann AG), it has chosen to work with the government of the Peoples Republic of China in its efforts to restrict Web censorship. Although the company's recent moves have generated controversy, Google clearly must protect its brand by being seen as the good guy. And so far it has. The damage Google has done to the world is minimal and centers largely on the slippage of grammatical standards, encouraging more people to use its brand as a verb. Google got big by keeping ads small. It carefully avoided pinching our marketing-saturated nervous systems and offered illusions of objectivity, precision, comprehensiveness, and democracy. After all, we are led to believe, Google search results are determined by peer-review, by us, not by an editorial team of geeks. So far, this method has worked wonderfully. Google is the hero of word-of-mouth marketing lore. And just as clearly, Google must get bigger. It must go new places and send its spiders crawling through un-indexed corners of human knowledge. Google's mission statement includes the rather optimistic and humanistic phrase, "to organize the world's information and make it universally accessible and useful." But Google co-founder Sergey Brin once offered a more ominous description of what Google might become: "The perfect search engine would be like the mind of God."

Everything is everything: network science, neo-liberalism and security

Tiziana Terranova

What links the emerging field of network science with its laws, its representations and its predictive models; the global system of neoliberal governmentality, feeding on cooperation and innovation while also fundamentally organized by mechanisms of competition between unit-enterprises; and new forms of net-centric warfare attempting to prevent unpredictable series of threats which are also themselves network effects? Drawing on Michel Foucault's lectures on neoliberalism and security, the paper will explore the relationship between the science of networks, mechanisms of security, and neo-liberal governmentality – and what a network culture might have to do with it all.

Imagined Networks

Wendy Chun

Drawing from Benedict Anderson's analysis of the nation as an "imagined community," this paper argues that we are witnessing the emergence of make imagined groupings--imagined networks--that are both less and more than communities or nations. In doing so, it does not argue for the distributed network as the model for our social interactions, bureaucratic organizations, or even our technologies, but rather asks: what needs to be in place for us to understand ourselves and our technologies as networked? How do social and technological abstractions coincide, diverge and inform each other? and how are these abstractions experienced, sensed, felt?

Just Networking: Can Network Knowledge Be Better Than "Good Enough" Knowledge?

Alan Liu

What is "network knowledge" as it forms at the unstable boundary between "expert" and "amateur" knowledge, or intrinsic and extrinsic knowledge? As exemplified by recent controversies over the inappropriate use of Wikipedia by students seeking only "good enough" knowledge to complete an assignment, the network in the age of Web 2.0 produces knowledge that can collide with academic, governmental, legal, medical, scientific, and other institutional understandings of the basic nature of knowledge. While such "good enough" network knowledge goes beyond local, expert regimes of knowledge to mash up, aggregate, folksonomize, and social-network together different regimes of knowledge, it is often not yet "good" knowledge or (ethically) "just" knowledge able to be fair to the true otherness of really robust knowledge--that is, knowledge that can stand up to, and with, other audiences, other perspectives, other assumptions. Instead, network knowledge is often practiced as an opportunistic grab-what-you-can raid that is true only to the spirit of "flexible" postindustrial global competition. Can the network do a better job of using its structure and technologies to adjudicate, and educate users in, "good" network knowledge?

The Image in the Network

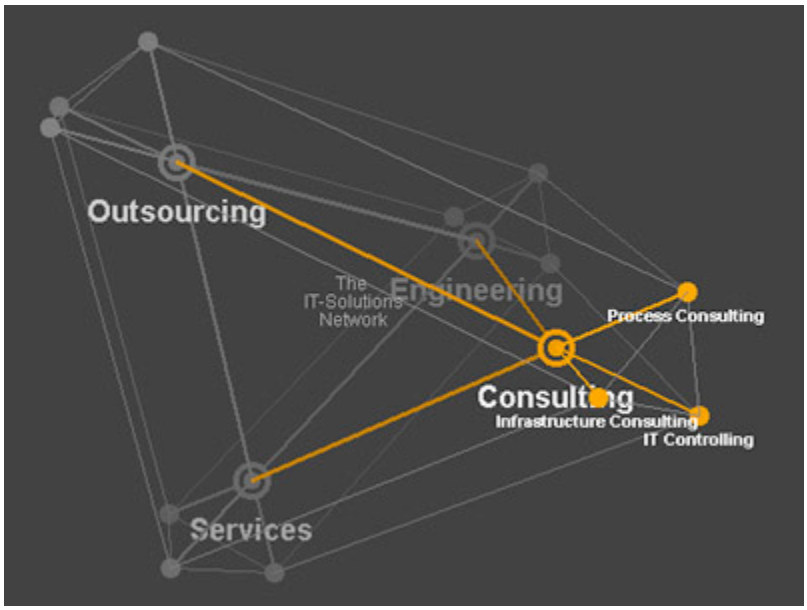
Anna Munster

This paper emerges from a background project that I have been unsystematically pursuing for the last 3 years or so. Various bits of it appear throughout texts - 'Theses on Distributed Aesthetics: Or What a Network is Not' (with Geert Lovink) and a more recent piece 'Welcome to Google Earth'. In these essays I realise that I have been trying to understand the interplay of two aesthetic forces or vectors in network cultures – the pole of customisation, homogenisation and atomisation and the pole of collective enunciation, production and distribution. Not that these are ever poles apart in contemporary network cultures.

For a while I have thought about this as a project concerned with 'distributed aesthetics' but I have more recently begun to conceptualise it as 'an aesthesia of networks'. This working title gathers into it the ideas of Castells, Terranova and Rossiter who have all argued that networks are constituted in the very tensions between the singular and collective, net and self and intensive and extensive processes and flows. Hence there can be no coherent, global 'aesthetics of *the* network'. And yet there are collective and shared experiences – aesthesias – of networks. The most common experience of contemporary networks perhaps being repeated cycling through euphoria and boredom.

There are also recurring patterns that regulate the aesthesias of networks such that their hetereogeneity or singularitiy ends up being siphoned into a neater 'package' of network functionality. One of these operates by packaging the network as image and takes the form of the vectoral diagram of networked connectivity. This has come to function as a dominant image of and for networks.

Who owns the internet? by Ben Worthen, Bill Cheswick



Lufthansa IT infrastructure

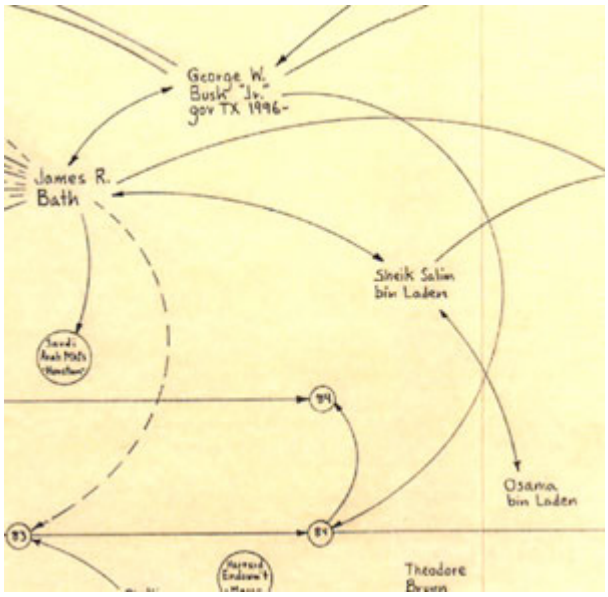
The repetitive and ubiquitous circulation of these kinds of diagrams of connectivity is striking in itself. But it is the aesthetic implications of these in which I am most interested. For I want to suggest that this diagram's status as a kind of meta-image of networking is literally *anaesthetic* – numbing and disengaging from the chaotic and experiential engagements in networks. The node-link schematic lulls us into a kind of comotose state about the socio-aesthetic-technical assemblages that ennervate network cultures. What I want to suggest is that the far-reaching distribution of this image of distributed networking operates as a homogenising force that attempts to erase disjunction, relationality and temporality from our perceptions of/in networks.

Luckliy, however, network visuality is not such a flatline! There are many examples of how individuals, online groups and environments are providing different approaches to the image in the network. I want to provide some examples of these later in this talk and to revisit the nature of these alternative images. Rather than trying to classify these images through a visual taxonomy, I will instead focus upon their divergent nature. In so doing, I want to invoke Walter Benjamin's analysis of allegory in *The Origin of German Tragic Drama*. For Benjamin, allegory was not so much something to be found contained within a particular text or image and systematically interpreted. Rather his approach to baroque allegory was to understand it as a mode of seeing or reading predominant throughout the European seventeenth century but also potentially resonating with later historical/cultural conjunctions. Baroque allegory inhabited the sphere of everyday visuality - the domestic, the familiar, the street scene – and unfolded via contingent associations between its metaphorical elements, often moving from one element to another in unexpected ways. He compared this twisting variability of baroque allegory with the function of the symbol in art and literature. The symbol's function was to preserve representational homogeneity - to always mean the same eternally.

I wonder whether this might not be a useful comparison to import into what I have to say about the ways in which the diagrammatic (rather than Benjamin's symbolic) and the allegorical differ in network vsuality. I think this may be a useful way to think about both the role of network diagrams and the role of alternative imagings of networks that I want to unfold today. These latter imaginings evoke a mode of visuality operating via divergent, disparate, everyday and surprising associative pathways. I think we find this allegorical mode in direct images of the Internet and its cultures, for example:

An allegorical map of online communities

but also in the attempts to stretch the diagrammatic mode to unfold the shifts of connection and disconnection that comprise the political dimension of networks. I am thinking here of the work of the artist Mark Lombardi who famously portrayed the money that filtered from the Bush family oil investments in the US into the Middle East and eventually was redistributed to the Bin Laden familiy's attempts to rearm and refinance sectors of Iraqi society for their own interests:



george w. bush, harken energy, and jackson stevens c.1979-90, 5th version, (detail)

More recent examples of a 'stretch' of the diagrammatic mode come through visualisation software such as Digg Swarm, which dynamically updates the clustering of users' 'interest' in stories posted on the Digg social aggregation news site. I think what we have here is a kind of becoming-allegorical of the diagrammatic. Of course it's also the case that the incorporation of both clustering and tag clouds as attempts to make the diagrammatic more expressive in Web 2.0 design re-asserts a kind of visual homogenisation where the 'clustered' and/or buffed-up tag comes to visually dominate and other variables in the image plane easily fade…

I'm also especially interested in a kind of emerging web visuality that develops through a mash-up of the diagrammatic and the allegorical by layering geodata and imaging in conjunction with personal and collective data and imaging:

where's george? mash-up

It should be clear then that I am using a conception of the allegorical here that broadens Benjamin's to examine engagements with image-making in network cultures that have an everyday (sometimes even banal), contingent and divergent nature to them. I am aware this may prove to be too broad but I think its better and, in fact, crucial to cast the net wider in the present moment given the kind of grip the purist articulations of the network diagram has on contemporary networked visuality.

What, then, do I see as the problems of the diagrammatic mode for the visual cultures of networks? And why, subsequently, do I think we need to reinscibe the importance of the work of allegory in the age of informatic supra-production? It is not so much that the image of diagrammatic connectivity represents networks in bad or good ways. Rather, I want to suggest that this form of diagram has come to function as a network meta-model, laying out the conditions of possibility for the experience, the aesthesia of networks. Its limits are those that C.S. Peirce noted about the diagram as a form of mathematical notation – that it says nothing about disjunctive information, existential statements (that is the conditions that are fundamental to its operation as a notational system), probability or relationality. In addition Mat (Wal-Smith) has pointed throughout this blog to a number of issues concerning the planar-linear-spatial problems of contemporary network visualisations. Namely that these occlude the folded histories of actual interaction in/of the network. As he suggests in his post on Jess Kriss' History of Sampling visualisation, the visualisation channels our mode of interacting with the historical data inputted about sampling. The visualisation draws planar graphs of the use of a sample in a piece of music but not how a sample might act as a catalyst for our relationships with the histories of music or to further processes of musical sampling. Hence we

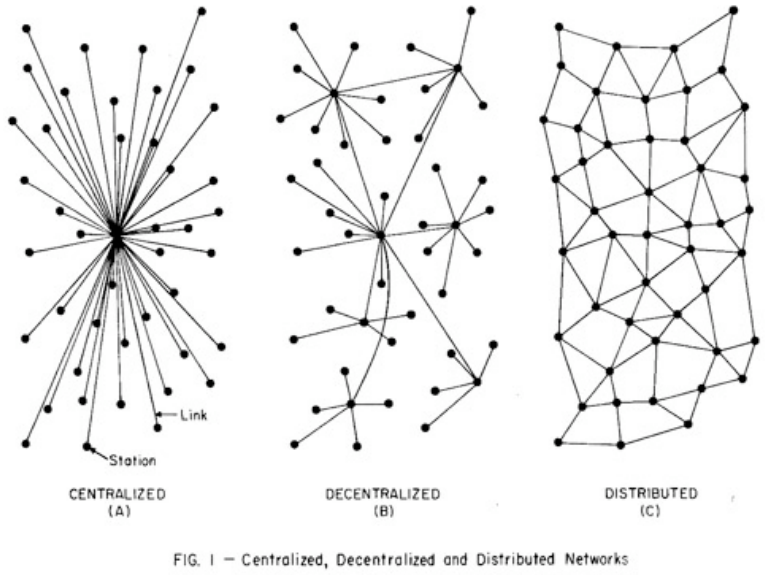
end up not with a history of the processes that are sampling but rather a history of samples (bits of trackable data).

What I want to do is think about this kind of processual semiotics endemic to contemporary media work, especially electronic music, as a mode of understanding network imaging. Another way to put this would be to pose the question of how images in networks are constitutive factors in network processes, flows and their regulation. First, I want to look at the domination of the diagrammatic image of distributed communications first sketched out in Paul Baran's 1964 RAND memo (image to come). The circulation and repetion of this kind of diagram as a network map, mnemonic and actualisation now dominates the visual landscape of networking, informing social network analysis, network visualisation and net aesthetics. And then second, I'll look at the ways in which the diagrammatic gets redrawn and mashed via allegorical network visuality.

When I talk about the processual semiotics of networks I mean to invoke not so much the tradition of interpretative semiotics that we may be familiar with via Sassure, Barthes and psychoanalytic theory. Rather I want to understand the diagrammatic via, as I have already mentioned, Bertrand Russell and Pierce and the ideas of processual semiosis that appear in the work of Felix Guattari.

I'd like to proceed by looking at Baran's diagram in the context of his memo to RAND. I then want to make some general comments about how these kind of diagrams function to manage and organise our perception and engagement with networks in the contemporary moment – ie as a way of regulating network aesthesias as 'an aesthesia'

The mythology associated with this diagram is that it represents the genesis of the digital network as sustainable in the face of nuclear attack. As the story that accompanies 'the origin of the Internet' goes: it was this distributed diagram allowing and attack on one node without meaning the whole network would come down. This diagram is often historically associated with the early 4 node hook up that initialised ARPANET in '68/'69 and in fact the period and research culture overlaps certainly justifies the association:



Paul Baran's diagrams of communications systems.

Hence the distributed communications system somehow acts as the 'blueprint' for the emerging connectivity of academc and military networking in Cold War USA.

However, in an interview between Baran and Stewart Brand in 2001, Baran himself comments on this myth of Internet origins, insisting that it was not the connectivity of network nodes as demonstrated in the distributed communications diagrams that was at stake in sustaining resilience to nuclear attack but rather the flow of information and data via packet switching that would be essential for deciding both sustainability and strikeback capabilities for the network. (See the interview in wired)

This is an important distinction because it indicates that Baran was not so much invested in the realisation of this diagram as a blueprint for the network but rather was focused upon network processes – the capacity of data to divide up, rearrange and reassemble itself as it moved around connections - in other words, packet-switching. There is some authorial revisionism going on here. If we look at Baran's original 1964 memo, he clearly states 2 criteria for post-attack survivability: both the percentage of 'stations' (as he calls them) left after attack and their 'electrical connectivity'. But perhaps what Baran has in mind in the later interview 'revision' is that networkability – what he calls 'the synthesis of a communication network' as distributed (and what I am understanding as the technical and social capacity of distributed communications to be constituitive elements in network formation) – is not reducible to the actual physical infrastructure that 'joins' the dots in a network.

As has been repeatedly the case in the history of the implementation of information theory – especially in the history of its military applications but also in its migration into other disciplines such as media and communications studies – nodes, senders and receivers have been hypostasised to the detriment of investigating the processual movements of data and peoples. As it turns out, we have to understand Baran's diagram and memo through both the poles of the hypostatic and processual. On the one hand, he is clearly interested in accounting for the precise 'level of redundancy', as he calls it, required in a network for it to function after severe physical attack on actual communications stations. This necessitates pushing the diagram through a series of graphs to calculate what number and level of nodes are needed initially for it to survive a severe attack on its nodes. On the other hand, after a certain amount of reduplication or redundancy of nodes the distributed network survives even a heavy loss of its actual infrastructure because of its array formation:

Baran's diagram for array formation - a 'process' diagram

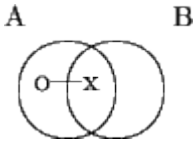
Baran is, then, equally interested in how the processes of distribution continue in the post-attack scenario. For him, these processes are only possible if the network has already reached a level of production of redundancy allowing the duplicative array formation. And for him, the array formation is simply the precondition for maximum switching of packets of information to occur. The distributed diagram, then, is not a blueprint for how to build a network – although there's no denying Baran was working to a military brief. Rather it is a set of vectoral preconditions necessary for the process of switching to occur; a process that is, for Baran, sustainable not only in the event of attack but also in the face of everyday network failures: 'noise', unreliable links, degradation and overload. It is little wonder that process is constantly overlooked in the visual depiction of networks as diagrams of connectivity. Again and again in Baran's memos network processes are entwined with a kind of implicit understanding of the aesthesia of networked inefficiency and breakdown. These problems of defective connections and systemic failure are hardly a vision of imperial preparedness for the nuclear age!!

At least part of the problem with the overlooking of the processual in network visuality lies with how we understand the representational status of diagrams and the historico-discursive forces shaping that understanding. In particular, I am thinking of the legacy that diagrams inherit from mathematics and syllogistic logic. Both Euler and Venn diagrams were developed to visually demonstrate syllogistic logic (example). However, as the analytic philosopher Bertrand Russell pointed out in 1923, there is a 'vagueness' to the diagram which in endemic to the problem of representation (Russell, 1923). Rather than the diagram simply acting as a one-to-one form of representation (as other forms of representation in mathematics such as algebra might), its spatiality frequently means that it acts in one-to-many mode. Hence for Russell, its 'vagueness' or rather its potential to be representative of the multiple and the variable. So, for

example, this vagueness means that the spatial relations between objects in a diagram can be used to represent relations between objects in some other domain. Baran's distributed communications diagram could be a diagram of ARPANET connectivity but it could also be a diagram of Lufthansa IT networking.

The diagram is therefore not a set of instructions – a blueprint – for mapping or building relations between objects. It is instead a representational mode that hooks one class of objects – perhaps links and nodes – to another class, potentially peoples, cultures and their processual relations within networks. This, of course, is why the network diagram is so thrilling – its spatiality and vagueness harnesses the potential to make it work as a representation of something it is not. (insert Friendster visualization). The problem is that while the potential to transpose from map to 'territory' is one of the diagram's visual attractions, we would do well to remember that this transposition is only a product of representational vagueness rather than accurate correspondence. In other words, if we really believe that the network diagram provides us with an accurate depiction of networks, then we are forgetting the very relationality of both diagram and network.

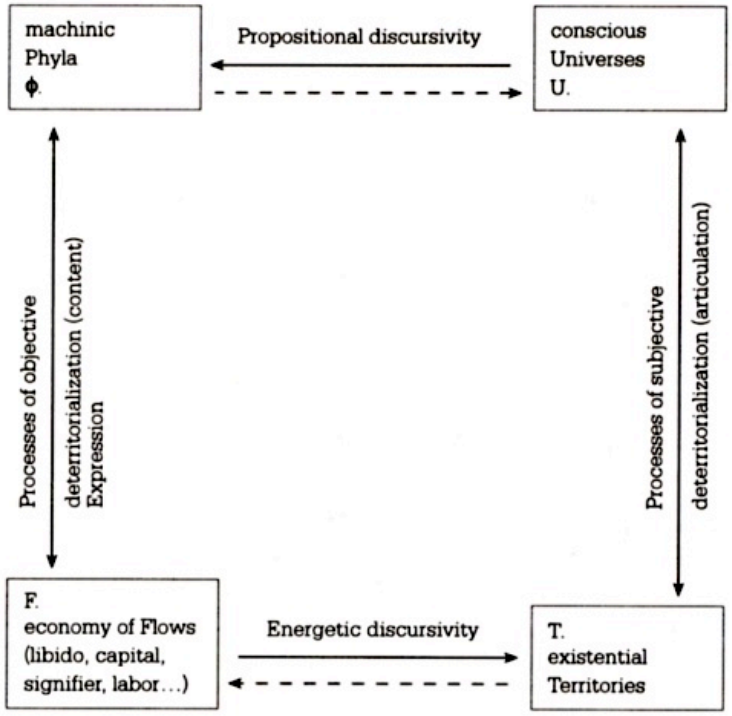
It's also importnat to remember that the history of diagrams within the 20thc development of logic is a contested one. In particular, the interventions of Peirce into diagrams as a mode of logical reasoning can be seen as both a contestation of their representational limits and an attempt to enhance their expressive capacities. He extended the classic Venn diagram by introducing new symbolic notation that could account for the presnce of disjunctive information within a set:



This diagram allows for either the syllogistic proposition 'All A are B' or the disjunctive information 'some A is B' to hold in the one representational space.

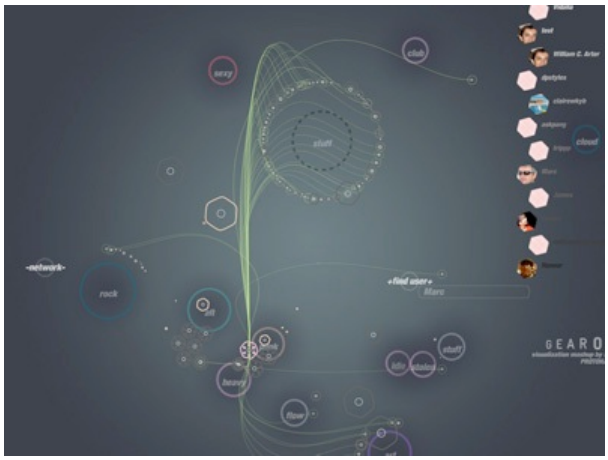
I don't have time here to do Peirce's extensions which also included attempting to extend the diagram to deal with logical existential statements…in fact for contemporary logicians Peirce's extensions ended up becoming too visually complex and, since the 1990s, work on the diagrammatic mode in logic has had a strong focus on returning to visual simplicity. That's perhaps unsurprising in the context of the broader visual culture, which I have also been attempting to chart in this talk, and which is underwritten by the seduction of the clean diagram as meta-model.

But what I am also interested in is the possibility that the diagrammatic mode can be deformed and shaken by the processual - and here I mean two kinds of deformation that are never far apart from each other in network cultures. The first I'll call a kind of intensive deformation, which is catalysed somewhat by the Peircean project but is taken up again in the work of Guattari. Here the diagram tries to unfold its vagueness or what we might also call its virtualities – its potential to become other, its potential to move to other rhythms. In this kind of deformation of the diagrammatic mode what is at stake is the diagram as dynamic, the diagram as process.



A diagram by Brian Holmes that attempts to work with the processual relations involved in the shaping of new subjectivities of collective enunciation.

I think this attempt to stretch the diagrammatic in processual ways is a strong direction as network visualisation attempts to come to terms with the intensive dynamicism of Web 2.0. It's what we see happening in the Digg Swarm visualisation. It's also what we see happening as node/link diagrams are subjected to weighted/dynamic mapping tools (thanks again Mat for pointing me toward the Middle East Power maps and toward Fidgt).



A snapshot of the Fidgt visualiser, which works by aggregating tags from users' web accounts such as Flickr and lastFM. Entering your account into the Fidgt visualiser then aggregates other users with the same tags into your map of 'use' visualisation once you deploy a tool called a 'Tag magnet'

I don't necessarily want to endorse the 'social networking' claims here nor the questionable ethics of popularity/wisdom of the crowd behaviourist psychology that accompanies the

topology of tagging and weighting in Web 2.0. But what I do find interesting about what has happened to the diagrammatic here is that there is a notable shift from diagram as notation and representation (with all its attendent problems of spatialisation and location) to diagram as activity and process. What kind of an aesthesia does this embody and generate? A networked aesthesia of plasticity - potentially collaborative, generative of new problems for thinking and engagement but also collapsing, deteriorating under the weight of the endless generation of its own redundancies.

Finally I want to think again of another possibility for network visuality, which I touched on briefly when referring to the idea of web mash-ups of the diagrammatic and the allegorical. In the where's george? mash up I showed previously, the mash is produced by overlaying the connective diagram with Google Maps. And this is of course where much of the mashing in networked visuality currently occurs - using Google's API capabilities to embedd its maps into user-generated data. Here we have a mash up of locative data with data flow…and in some ways this is reminiscent of earlier web projects (many of which are archived in the Atlas of Cyberspace site) that attempt to provide a geospatialisation of network generated exchange and interaction.

But these could also be understood as a mash between the everyday and associative relations produced or generated by the collective exchange of peoples in networks, on the one hand and the vectoral packaging of relationality into the data template. It is in this sense, that I speak about a mash up of the diagram and the allegory in network visuality (recalling Benjamin's comments about the incipient wandering and everydayness of the allegorical as well as his ideas about synthesis as the ongoing presence of tensions). What I think we need to do is work at the potential for both the disjunctive (diagrammatic expanded in its expressive capacities) and the temporal (allegorical as a mode of unfolding historicity) to play more overt and generative roles in our images and imaginings in networks

Network adoption amongst groups – elements for success and failure

Rob Stuart

Drawing on experiences creating philanthropic, activist and issue advocacy networks, I will describe elements, which affect whether networks are adopted widely amongst participants. Why do some networks scale while others never take hold? What impact does human relationships have on network technology? Can new network "principles" provide a foundation for more expansive and successful networks?

From Networked Publics to Object-Oriented Democracies

Warren Sack

The language of politics has used a number of technical metaphors to describe "us" as a body politic. For example, think of "the masses": could this have been imagined without the language of physics? The latest in this series is the "network." But, networks too – like older ideas of association and assembly – will be displaced. Political theorist Noortje Marres suggests a possible successor: the "object-oriented public." Popular objects of Internet exchange illustrate the possibilities and limitations of an object-oriented public: Is there a YouTube democracy? A BitTorrent public? I don't think so, but let's have an argument if you do.

We have seen repeatedly how network technologies enable not only new forms of social and cultural interaction but also new representations of the collectivities and geographies in which those interactions take place. The Internet, especially, has been a flexible medium in which new technologies of representation can emerge, acquire power, and at the limit become "metonymous" with the world they represent—parts taken for the whole. This relatively open vista has created many new opportunities for technologies of representation to show the frequently obscured side of their function: that of enabling and ultimately transforming their objects.

The process is not new: Our basic concepts of association are rooted in different technologies of representation. These concepts privilege different valences of association—face-to-face connections, the relationship to a state or other authority, degrees of separation among a group of peers. The original meaning of the word "social" was coextensive with all types of association. But now, "we tend to limit the social to humans and modern societies, forgetting that the domain of the social is much more extensive than that" (Latour, 2005, p. 6).

There is ample evidence of the currency and power of "networks" as a way of thinking about forms of association. My goal in this paper is to reinsert networks into a longer history of the linked metaphors and technologies that shape our understanding of the "public" and our agency within it, beginning with the early 20th-century debate between Walter Lippmann (1922) and John Dewey (1927) about the constitution of the public and ending with Noortje Marres' description of an "object-oriented public" (Marres, 2005), a critique of the limitations of the network metaphor and a proposal about how they can be overcome. In sketching this larger arc, I hope to illustrate the contingency of the descriptive power of the network especially in our discussions of electronically mediated association. Like older conceptions of association and assembly, it can be displaced as other tropes and technologies provide new leverage on forms of collective action.

In 1922 the journalist and political advisor Walter Lippmann published the now-classic text Public Opinion, in which he sought to define public life and the distinctly articulated publics that compose it. In the first chapter, "The World Outside and the Pictures in Our Heads," Lippmann advances the idea that public opinion consists of a union of the set of "pictures" in the minds of individuals. This "big picture," he argues, is the public's opinion about a given issue or event. In turn, "Public Opinion," writ large, is the sum of these collectively held representations carried into action. It is the manifestation of public life:

> Those features of the world outside which have to do with the behavior of other human beings, in so far as that behavior crosses ours, is dependent upon us, or is interesting to us, we call roughly public affairs. The pictures inside the heads of these human beings, the pictures of themselves, of others, of their needs, purposes, and relationship, are their public opinions. Those pictures which are acted upon by groups of people, or by individuals acting in the name of groups, are Public Opinion with capital letters. (Lippmann, 1922, p. 29)

Seen from 2007, one of the striking features of Lippmann's book is its reliance on a narrative analysis of this process, articulated with the techniques of storytelling rather than through statistics and questionnaires. Public Opinion may have been the manifestation of public life, but this object had no technology of representation that distinguished it from other theories and descriptions of public life. Although it proved influential on the emerging field of political science, it vied with other discursive accounts. This approach held sway well into the 1940s: The first volume of the journal *Public Opinion Quarterly,* published in 1937, retains much of Lippman's discursive tone.

The transformation of public opinion into the object of statistical social science we know today—a science of polling and surveys—owes much to the work of midcentury scholars of media and communication like Paul Lazarsfeld, Harold Lasswell, Kurt Lewin, and Carl Hovland. All were central figures in the postwar development of statistical methodologies in American social science. The success of their project is visible in contemporary volumes of *Public Opinion Quarterly*, which are dominated by numbers, graphs, and mathematical formulas.

This hegemonic history of "administrative" media research is sufficiently well known that I will not rehearse it here (Lazarsfeld, 1941), but I do want to reflect on the meaning of this shift in the dominant technology for representing public opinion. With empirical measures and statistical techniques, public opinion became measurable and deployable in ways that allowed it to achieve legitimacy comparable to other technologies of representation of the public, such as voting. The new technology appropriated, empowered, and ultimately transformed the metaphor.

The science of public opinion provided a new answer to an old problem. Since the 18th century, social theory has struggled with a twofold problem of grounding authority: first, that of specifying a popular (and later national) will that could legitimate authority; and second, the question of what "technology," in a broad sense, could represent that will. For Rousseau (2002), this technology was a special person—the legislator—who could divine the general will. For later German Romantics, national languages became the vehicles of representation, with literature its operative technological form. For American constitutionalists, who integrated Locke's view of society's fall from original unity into conflicting interests, voting and political representation were the technologies through which differences within the larger public could be formally expressed and overcome.

Social science and philosophy have generated a vast number of other metaphorical descriptions of the public, rooted in different and often scientific perspectives on systematicity and relation. These are technologies in the broad sense that they enable different kinds of questions to be asked. An account of these would include the public as:

> *A physical system or mass*. This metaphor underwrites work in mass communications and allows one to ask questions like "What is the impact of a given message on an audience?" *Mass* communications research arguably starts with Harold Lasswell's work on propaganda in World War I (Lasswell, 1927).
>
> *A thermodynamic system*. In the 1940s Robert Merton and Paul Lazarsfeld advanced a program of research in which social structures were seen to be stable or unstable, in equilibrium or disequilibrium, according to group dynamics and the media messages that influence the members of a group. The metaphor of the public as a thermodynamic system engenders questions about the production and breakdown of social order. Thermodynamics, equilibrium, and entropy as tropes all become even more influential with the introduction of information theory (Shannon & Weaver, 1949).
>
> *An ecology*. Earlier in the century Robert Ezra Park and E. W. Burgess founded a discipline they called "human ecology" to explain how relationships between individuals are governed by a struggle for territory that results in symbiotic relations of unplanned competitive cooperation (Park & Burgess, 1921).
>
> *An organism*. A metaphor articulated by Herbert Spencer (1883-1890) in the middle of the 19th century, with descendents in the work of Marshall McLuhan, who wrote of railways and telephone lines as the nervous system and/or vascular system of society (McLuhan, 1994). McLuhan allowed one to see how the public might become a radically different animal with the introduction of new media technologies.
>
> *A network*. In his review of contemporary French social science, Francois Dosse describes how social bonds and the weaving together of subjects and objects is currently conceptualized as a set of "sociotechnical networks" (Dosse, 1998, p. 96). Many French social scientists and philosophers have

employed this metaphor (e.g., example Bruno Latour, Gilles Deleuze, Felix Guarttari). In North American social science, quantitatively oriented sociologists of social network theory (e.g., Harrison White, Stanley Wasserman, Barry Wellman) work with an analogous vocabulary.

Other metaphors in circulation include the public as (ir)rational individual, public as information processor, public as market, public as evolving species, and so forth (cf., Mattelart & Mattelart, 1998) Our idea of the public is shaped by different configurations of these metaphors, which have varying degrees of currency in contemporary discourse (even if some have fallen out of favor within the social sciences). They remain relatively weak metaphors, however, until they couple with technologies of representation that can extend their reach.

The statistical revolution was the prelude to more sophisticated, computer-mediated forms of modeling and visualization of publics and public opinion. As Paul Edwards (1996) and others have argued, authority over many issues of general public concern (e.g., the state of the environment) has migrated from exclusively human hands into myriad meaning-making technologies—including, especially, information technologies. It is false nostalgia to reject this process. To claim that the will or opinion of the public can be felt in an unmediated, direct fashion is a rhetorical trick—although, for historical reasons, a very common and powerful one. The difficult question for students of media today is, therefore, not "How can public opinion be registered without technological mediation?" but rather, "How can new technologies of representation call into being more democratic publics with richer measures, modes of visualization, and structures of participation?" These technological imperatives can be understood as an effort to design what the philosopher Michel Foucault has called *technologies of the self* (Martin et al., 1988), that is, means for groups to reflect on their discussions, collectively authored "statements," and possible (dis)agreements (i.e., as pictures of public opinion).

According to the Oxford English Dictionary, the word "network" is very old. It was employed in the 16th-century translation of the Bible to represent the weaving together of sets of material strands (metal, fabric, leather, etc.). The use of the term as a synonym for a set of interrelated people, by contrast, is a recent invention. The verb "to network," meaning to introduce and be introduced to other people outside of one's immediate social circle, made its first appearance in the 1970s after the deployment of ARPAnet, the precursor to the Internet.

Within social science, networks are arguably an analytical discovery emerging in the late 19th-century work of Gabriel Tarde (cf. Latour, 2001), or, alternatively, of the 1930s social network research of Jacob Levy Moreno (1953). Regardless of the chosen date of origin, it does not require a historian of social science to note that structural analysis of social networks was largely invisible before the seminal work of Stanley Milgram (1967) and others in the 1960s. As the Internet developed into a highly visible instantiation of the concept, networks become both research objects in themselves and the objects of a new set of research methodologies (network analysis; e.g., Barabási, 2002).

It seems probable that the metaphor of the *public as a network* would not have gone far without the confirmation provided by this dominant social and technological infrastructure. If it was not possible to log on to the network and meet other people by exchanging e-mail, for example, the image of the self as a "node in a network" would seem absurd. Like other hegemonic concepts, social networks are no longer just a metaphor but a metonymy, a substitution of a part (the Internet) for the whole (social relations of all kinds).

The appearance and now near-ubiquity of computer networks does not by itself explain why social scientists and members of the general public are so enthusiastic to equate people with nodes of a network. After all, networks of many kinds have existed for a long time (Mattelart, 2000). For example, by the middle of the 19th century, the telegraph network made it possible to transmit a message from Maine to Texas. But Thoreau made light of this in his famous comment: "We are in great haste to construct a magnetic telegraph from Maine to Texas; but Maine and Texas, it may be, have nothing important to communicate" (Thoreau, 1980, p. 52).

The mere existence of techniques or technologies of networks does not make them compelling objects of personal identification or (inter)national cohesion. Nevertheless,

Thoreau's quip short-circuits the potential for a mutually recursive definition of the public and technology. In the words of John Dewey (1927):

> Railways, travel and transportation, commerce, the mails, telegraph and telephone, newspapers, create enough similarity of ideas and sentiments … for they create interaction and interdependence. … Our modern state-unity is due to the consequences of technology employed so as to facilitate the rapid and easy circulation of opinions and information, and so as to generate constant and intricate interaction far beyond the limits of face-to-face communities" (p. 114).

In other words, Maine and Texas might not have had much to say to one another before the construction of a telegraph line connecting them, but the more the connection was used, the more they had to say, until constant contact between the two states forged a new bond between them.

Dewey's point is *not* that "the medium is the message" (McLuhan, 1994); rather, he states that the new connections between people established by modern technology engender an exchange of ideas. These ideas, as matters of public debate and concern, forge and divide coalitions of people into differing publics:

> How can a public be organized, we may ask, when literally it does not stay in place? Only deep issues or those which can be made to appear such can find a common denominator among all the shifting and unstable relationships. … There are those who lay blame for all of the evils of our lives on steam, electricity and machinery. … In reality, the trouble springs rather from the ideas and absence of ideas in connection with which technological factors operate. (Dewey, 1927, pp.140–141)

Dewey's *The Public and its Problems* was a response to Lippmann's writings on the public and public opinion (Dewey, 1927, n. 1, pp. 116–117). In her rereading of this debate, "Issues Spark a Public into Being," Noortje Marres (2005) identifies a common understanding of the constitution of the public in Dewey and Lippmann's work. In Dewey's terms, a public is a form of association distinct from other types of community (e.g., friendships, religious groups, scientific communities):

> The characteristic of the public as a state springs from the fact that all modes of associated behavior may have extensive and enduring consequences which involve others beyond those directly engaged in them. … when a family connection, a church, a trade union, a business corporation, or an educational institution conducts itself so as to affect large numbers outside of itself, those who are affected form a public… (Dewey, 1927, pp. 27 and 28)

According to Dewey, publics are contentious in origin—the products of events in which a nonpublic group oversteps its bounds in ways that affect those outside its membership. Dewey's perspective allows one to account for the transitory, overlapping quality of "public" alignments of interests, but makes it difficult to understand in any precise way what "the public" is. "The public," as a single, unified entity, may, in fact, be just a fiction or *phantom* (Lippmann, 2002) of political maneuvering.

Marres pursues this picture of publics further in joint work with Richard Rogers (e.g., Marres & Rogers, 2005). The authors identify specific issues that engender the formation of publics on the Internet (e.g., global climate change). These publics are organized into what they call "issue networks": think tanks, scientists, activists, NGOs, and others linked to strategically frame discussion and debate of objects of public concern (Marres & Rogers, 2005, pp. 922–923). They have also developed a software tool (IssueCrawler) that maps and visualizes these relationships in terms of hyperlinks between web sites.

Network-based tools—like the IssueCrawler and many other works including my own Conversation Map (cf. Sack, 2002)—provide powerful representations of the metaphor of the "public as network." But these kinds of technology have limitations. Most important, networks are an adequate means for representing certain kinds of synchronic structural relations, but they provide no representational means to depict diachronic processes, that is, systems that change over time. Using networks it is difficult, if not impossible, to represent an event that might subsequently engender the development of a public motivated to assemble because of the event. The formation, development, and change of a network is outside the representational means of networks because networks are descriptions of structures, not processes. One might supplement this inadequacy by employing other means like content analysis, time series analysis, and so on.

But this is the point: These other representational means are not the means of networks. Networks must be supplemented in order to represent change over time.

Marres (2005) has sought to address these representational shortcomings by offering a new metaphor—"object-oriented democratic politics" (p. 208). The new metaphor is an effort to engage not only the subjects of politics (i.e., the people that constitute a public) but also the objects of concern or contention (i.e., the issues that motivate a public's organization; Marres, 2005, p. 208). In "From Realpolitik to Dingpolitik or How to Make Things Public," Bruno Latour (2005) discusses the metaphor's technological foundation:

> A few years ago, computer scientists invented the marvelous expression of "object-oriented" software to describe a new way to program their computers. We wish to use this metaphor to ask the question: "What would an object-oriented democracy look like?"… It's clear that each object—each issue—generates a different pattern of emotions and disruptions, of disagreements and agreements. … Each object gathers around itself a different assembly of relevant parties. Each object triggers new occasions to passionately differ and dispute. Each object may also offer new ways of achieving closure without having to agree on much else. In other words, objects—taken as so many issues—bind all of us in ways that map out a public space profoundly different from what is usually recognized under the label of "the political." (pp. 14 and 15).

Object-oriented programming was invented more than 40 years ago (Nygaard, 1962) and incorporates both a means for describing structures and processes. The definition of an "object" incorporates both a description of its structure and a definition of associated processes (usually called "methods" or "handlers") that might be used to query or change the structure. For example, graphical computer interfaces are usually programmed using object-oriented methods. The interface's structures—its buttons, windows, menus, and their arrangement—are defined as objects and then handlers are added to the objects to define what should happen if, for example, a user pushes a button or clicks the mouse on an item of a menu. "Object-oriented publics" improves upon the network metaphor insofar as it both incorporates a means for describing processes—the dynamics and changes that can occur over time—and a framework for retaining distinctions between opposing entities. It enables us to ask a new set of questions about publics and their actions. Marres's anachronistic employment of a 1960s computer science term to characterize Lippmann and Dewey's ideas of the 1920s suggests the current fascination with networks may simply be one more metaphor in a long line of others. Soon, perhaps, it will be quite dated to imagine oneself as a node in a social network of Friendsters (see boyd, Chapter 8, this volume). Maybe, following the language of computer science, we will soon understand ourselves as "object handlers."

Stranger things have happened. For example, the notion of "open source" was originally a concept known only in technical circles: It describes a way of distributing software so that it can be shared, reused, and modified by subsequent programmers and users (cf. Weber, 2004). But now, "open source" is a form of art (Cramer, 2000), a national public radio program (http://www.radioopensource.org/) and is being applied to a large range of media for the purposes of articulating a new public space, a so-called "creative commons" (http://creativecommons.org/). In the world of software, object-oriented programming is a methodology that allows for wider sharing and reuse of good ideas. Object-oriented programming and open source are two complementary ideas from computer science. To imagine that we might proceed from thinking of ourselves as nodes in a network to inventing a self-image in the guise of an open-source object handler cannot be any more whimsical than the industrial age's imagination that we are but cogs in the wheels of some enormous machine.

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The Work of Users in Times of Perfect Templates

Olia Lialina

"The Work of Users in Times of Perfect Templates" is a continuation of my "Vernacular Web" research, surveillance of todays' amateurs culture, an attempt to reveal it and describe. I'm looking at new ways of self expression, amateur vs. professional clashes, aesthetics of self representation. How do users show their connection to web history and what are the signs of the future in their work? How does web look when it is a technology of today and not tomorrow, when it is filled by people who are not exited by its existence? And what to do with networks of boredom? It is over repeated that todays web is about people, that it is not pages, but user-centered. User generated content is praised and Rich User Experience is a goal for developers. Sounds like paradise in cyberspace. But in reality never before life of a user was so formalized and disciplined. There is a particular service offered for every format a user may want to share with the world, and a community for every interest, network for any social group. (And mash ups for artists.) So one of my biggest interests in this research is to find traces of subversive web culture of today and to follow them.

"Text" and "network", reconsidered

Florian Cramer

The Latin word "textum" literally means "the web". With the invention of the World Wide Web in the 1990s however, there was little reflection of a world-wide text, but fruitless debates on "hypertext", a term that hardly lived up to more than its first four letters. How can, nowadays, text and network be reconsidered as two corresponding symbolic forms? And do computer networks help to define more precisely what actually a text is - technically, but also performatively, as both a purveyor and agent of rumors, memes, obsessions?

MTML meets Web 2.0: Theorizing social processes in multidimensional networks

Nosh Contractor

Advances in digital technologies (e.g, Web 2.0) invite consideration of organizing within communities as a process that is accomplished by global, flexible, adaptive, and ad hoc networks that can be created, maintained, dissolved, and reconstituted with remarkable alacrity. Increasingly these networks are multidimensional including individuals as well as digital artifacts and concepts. This presentation makes the case for a new generation of theorizing about social processes in these multidimensional networks. It proposes a contextually based multi-theoretical multilevel (MTML) model to investigate the dynamics for creating, maintaining, dissolving, and reconstituting these social and knowledge networks in diverse communities. Using examples from his research on communities involved in disaster response, environmental engineering, public health, economic resilience, and MMOs (Massively

Multiplayer Online games), Contractor illustrates the potential of the MTML framework to model how social and knowledge networks are enabled by Web 2.0 technologies.

OSNA -- Open Source Network Analysis

Valdis Krebs

Advanced technology and Web-savvy citizenry now make it possible for open-source information gathering to rival, if not surpass, the clandestine intelligence produced by government agencies. Indeed, open-source methods have already proved their worth in counterterrorism. Shortly after Sept. 11, Valdis Krebs, a security expert, re-created the structure and identities of the core Al Qaeda network using publicly available information accessed from the Internet.
By Douglas Raymond and Paula Broadwell, *Christian Science Monitor,* 08 January, 2007.

In the past only experts did "social network analysis"[SNA], now many smart people are using the software and methods of SNA to solve daily problems and to share learning and sense-making with others. We will look at several popular social network maps that were all created using public information found on the Internet. From international terrorists to local 'economic terrorists' we will see how "it takes a network to fight a network."[1]
Taking an SNA approach to a popular web site's sales data reveals the same political patterns as multi-million dollar national surveys. A top tier business school reveals what they deem important from an SNA of data found on professor's home pages -- MBA applicants take note! Finally, we will see how lobbyists influence legislative outcomes, while maintaining their "distance" and retaining "plausible deniability".

[1] John Arquilla and David Ronfeldt of Rand Corporation

Towards Scholarly Marketplaces

Katy Börner

Scholarly marketplaces that provide easy access to scientific data, algorithms, publications, and last but not least expertise require major cyberinfrastructure. They require access to large-scale databases such as the Scholarly Database https://sdb.slis.indiana.edu which integrates and provides access to 20 Mio. publications, patents, and funding awards. Plus, there needs to be a means to efficiently access and workflow diverse data sampling, cleaning, analysis, modeling, and visualization algorithms and to run them on scalable computing infrastructures. These needs are addressed by the Cyberinfrastructure Shell (CIShell) specification we developed, see also http://cishell.org. Building on the Open Services Gateway Initiative (OSGi) specification, CIShell supports the design of user-friendly, plug-and-play cyberinfrastructures such as the Network Workbench. Marketplace transaction data will supply the high quality and high coverage data required to draw the first truly comprehensive map of mankind's scholarly knowledge. The maps can be used to identify major experts, works, and (funding) resources; to understand the internal structure and external linkages of scientific disciplines; and to keep track of emerging research frontiers or bursts of activity, see also http://scimaps.org.
This research was conducted by members of the Information Visualization Laboratory and the

Cyberinfrastructure for Network Science Center at Indiana University directed by Dr. Katy Börner as well as collaborators named in the talk. More information is available at http://ella.slis.indiana.edu/~katy/.

NETWORK THEORY

Fibers, links and networks – a parallel between textiles, data communication systems and social interaction

Tincuta Parv

Textiles webs are among the first conceived models of networking. The history of computational systems often highlights the basic 1/0 model of the weaving machine, as well as Joseph-Marie Jacquard 1802's automatic loom controlled by punched cards. If this genealogy of computational systems is well known, the paper will try to inventory some of the textile's technical formal aspects and to compare them with similar aspects of data communications systems. By questioning the formal aspects of social theories, the paper will forward discuss issues as free networking and hypermedia.

E-sociability metaphors: From virtual community to social network and beyond

Marianne van den Boomen

In this paper it is argued that both the concept of 'community' and 'network' often function as reifying metaphors in Internet research. The virtual community metaphor, imported from the imagery of a pre-modern village, is connected to a delimited virtual space with a distinct group of communicating users. While pre web and early web 'social software' indeed did enable virtual settlements in bordered virtual spaces, this no longer holds for distributed web communication. In the context of for example MySpace and the so called blogosphere aggregated web scripts generate permeable interface borders and a proliferation of heterogeneous information and communication transferences which, while undoubtedly social, elude the community metaphor. The network concept seems more appropriate here, but might turn out to be tricky as well. Especially when invoked simultaneously as a model and as ontology, as in social network analysis, the network might become a reified metaphor, in which unruly qualitative phenomena are superseded by a model of homogenized quantitative relations.

The Philosophical Foundations of Network Theory: The Reticulum[1]

Leslie Jaye Kavanaugh

> Planes must be constructed and problems posed, just as concepts must be created…concepts are not eternal….
>
> Deleuze and Guattari[2]

> But poetry that thinks is in truth the topology of Being: This topology tells Being the whereabouts of its actual presence.
>
> Heidegger3

Given the present impossibility of overcoming metaphysics as defined by the Western tradition, the philosophical difficulty in actually seeing the way forward, a project the firstly makes explicit the ontological structures that comprise the metaphysical project of Western metaphysics is necessary. I will not be calling for the demise of metaphysics, for its "*Destruktion*", or even for its "deconstruction"; rather I will precisely be doing metaphysics – doing exactly what metaphysics has always done – asking itself what it is. In this way this project is to do metaphysics, to construct yet another architectonic of philosophy. Because finally, to "overcome", to "escape", to "end", to "deconstruct", to "go beyond", is in my opinion at present not only not possible, but also perhaps not even desirable. Perhaps, I conclude, metaphysics is primarily this very desire to construct, to contain, and to delimit. If so, then, are these structures optional? Can other structures be proposed that are configured differently, and are therefore more useful and meaningful for contemporary concerns?
Ultimately, this project is constructivist, as opposed to deconstructivist. Here I propose a new architectonic, a structure that is perhaps more immanent, more broadly based as a foundation, and pluralist whilst being a singular continuity. Yet it too will merely be among the many architectonic structures in the metaphysical landscape. I call this proposal the reticulum.

On Method: Onto-topology

Whereas the history of philosophy defines metaphysics as asking the question "What is Being?"; here is asked, "Where is Being?" Since even before Aristotle, the question that has always been asked, and will always be asked because it never ceases to bewilder us, is the question, "What is Being?"[4] Indeed, the question of Being has never failed to be asked. In contrast, the question as to the location of Being has rarely been asked. Metaphysics - whether immanent, hierarchical, transcendental, negative, "beyond", higher than, "Outside", or "Otherwise than Being", always implies an architectonic - an ontological structure that positions beings and Being within a complex composition. What is to be analyzed here is indeed part of the tradition of metaphysics to inquire about Being *qua* being, but here the inquiry is into its structure, its position within the ontological whole. In doing this analysis, two points become explicit: one, ontology has a structure; and two, the status of Being within this structure.

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[1] This paper is excerpted from: Kavanugh, Leslie; *The Architectonic of Philosophy: Plato, Aristotle, Leibniz* (Amsterdam: Amsterdam University Press, 2007).

[2] Deleuze, Gilles and Guattari, Felix; *What is Philosophy?* translation Tomlinson and Burchill (London: Verso, 1994)p.27.

[3] Heidegger, Martin; "The Thinker as Poet" in *Poetry, Language and Thought* translation A. Hofstadter (New York: Harper & Row, 1971)p.12.

[4] Aristotle; *Metaphysics* 1028b5-7.

In short, an analysis is required of the formal structure of Being that functions as the ground or condition of possibility of all ontology.
The method that has developed in order to make explicit this structure, is called ***onto-topology***. Topology can be defined as a relationship between linked elements in a system. As such, a topology can be considered as a kind of whole which constitutes a unity even though it is comprised of various parts - even disparate, incongruent, and hybrid parts. Onto-topology, as a method, can then be defined as the making explicit the ontological structures that underpin the metaphysical project of Western metaphysics. This method inquires into the position of Being and beings within the various formal accounts of the parts, making a connected whole, or a continuum. Onto-topology - the logos of the "situation" of being – is simply asking: "Where is Being?"

Ontological Structures: The Architectonic

Traditionally, philosophy has been in search of firm foundations. These grounds were seen as immutable, eternal propositions about which no contestation could be made. Upon these foundations, other knowledge based on either experience or reason could be firmly placed in order to reconstruct or to understand the structure of the world. It was only a matter of time when the superior intellect of man would discover the building blocks of knowledge. Essentially, man sought to discover what God had already created, and in our hubris believed it within our intellectual powers to understand every mystery in the world. Even critical philosophy, in attempting to question the metaphysical "remains", still attempted to restore philosophy to her true foundations and to retrace the origins of truth.

Yet man not only constructed his architectonic of philosophy, he made the building blocks as well. Consequently, the search for origins and the excavation of original, more primordial foundations are subject to question. We will only discover what we have ourselves constructed earlier. Interesting perhaps, but not more true. As Nietzsche suggested in *On Truth and Lies in a Non-moral Sense*:

> ...one may certainly admire man as a mighty *genius of construction*, who succeeds in piling up an infinitely complicated dome of concepts upon an unstable foundation, and, as it were, on running water. As a genius of construction, man raises himself far above; ...man builds with far more delicate conceptual material which he first has to manufacture from himself. In this he is greatly to be admired, but not on account of his drive for truth or for pure knowledge of things.[5]

Man, precariously balancing upon shifting foundations, shored up by his tenuous scaffolding, attempts to raise himself far above - perhaps nearer to God - and in doing so constructs his architectonic of philosophy. This work acknowledges the possibility of a plurality of ontological structures within philosophy. In acknowledging the view of metaphysics as a construction; indeed, metaphysics as the very desire to construct, to delimit, to search for origins, to layout foundations - the plurality of ontological structures can be seen as a kind of historical field liberally populated with all kinds of compositions, some more successful than others.

Fluvial Interpretations: The Problem of Point-of-View

Notably, when Leibniz had argued in the 17th century that there was no absolute space or time by appealing to his *Principle of Sufficient Reason*, space only had meaning in relation to other bodies in relation to each other. Space and Time were not things; they were relative to our ways of relating to phenomena; that is related to each monadic point-of-view. Consequently, one could only distinguish differences in location, and not substance, since all dispositions were relational and per definition temporary. Nevertheless, as an order of relation, individuals were constantly free to

[5] Nietzsche, Friedrich; "On Truth and Lies in a Non-moral Sense" in *Selections from Nietzsche's Notebooks of the Early 1870's* trans. D. Breazeale (New Jersey: Humanities Press, 1979)p.85.

define their world within the limits of their perfection. For Leibniz, space was neither absolute nor "a thing" because spatiality belonged to the world of phenomena, an order of relations.

The structural strength of Leibniz's architectonic was that he tried both to reconcile that which went before him, and participate in the generation of a modern mechanistic philosophy, as well as a complete renaissance in mathematics. Obviously, this intellectual ambition was exceedingly difficult; Leibniz himself called it the "second labyrinth of the continuum", a complex maze that in over sixty years of thought, he would never fully emerge. Nevertheless, in the struggle, he comprised an architectonic that was breathtakingly rich with possibilities. Central in his onto-topology was his notion of the monad, the constitution of which was revised over the course of his philosophical development from a mere unit of simple substance to a dominant monad as a central force unifying a composite substance in various degrees of perfection, from the immaterial to gross matter. Each monad possessed free will, was capable of action and re-action, yet at its substantial core never changed. For Leibniz, the world was established through monadic perception, rendering in effect each monad critical to the instituting of the phenomenal world. Importantly, Leibniz's architectonic was also a continuum of sorts, yet not an oppositional structure, rather a continuum of perfection with God as the most perfect Being on the one extreme, graduated to the various diverse monads whose degrees of perfection were determined by their own choices made in free will. Leibniz proposed in his *Monadology* a way of considering objects innately interconnected with each other. With his conception of a composite substance, individual things retain their autonomy, their free will, and yet are gathered together in aggregates in an interconnected relationship. An assemblage is an aggregate of simple substances, a monad. For Leibniz, a "world" is simply an interrelated system of monadic perception. Yet, each monad is a unique individual. A multiplicity of possible aggregations of composites exists alongside an infinity of possible interconnections between monads.

And yet, for Leibniz, the phenomenal and the substantial were never radically separate as such, rather an intertwining, an intussusception, a fold. For Leibniz, the continuum is a question of both/and. Unity is always one entity; that is to say, one real substance. So although the substantial as a monadic atom was indestructible – created by God and subsequently only destroyed by him – the monad was always folded into the dynamically changing phenomenal world, a world of well-founded appearances. Indeed, Leibniz in contradistinction to most of his contemporaries, located being as monadic substance as completely impregnated or folded into the world. Yet Leibniz was also an Idealist of sorts – phenomena were never "real". Leibniz constituted a space and time that was not a "thing", rather a relation, and in doing so he provided a kind of reconciliation between the eternal Parmenidean "Being as One", and the Heraclitean dynamic flux. As such, space and time as relations held a critical place in Leibniz's architectonic of the labyrinth.

Yet Leibniz felt compelled to retain the transcendent aspects of his notions of space and time. Although he argued that any Creator who needed to intervene in his creation, had not created a perfect world, God still functioned as a standard, a measuring stick from which all could be related in space and time. God remained the ultimate point from which all things existed. God was the "correspondence between phenomena", the systematic means whereby all things were interconnected. Consequently, although absolute space and time did not exist for Leibniz as "real" things, we could in the phenomenal world act as if they did exist, even though the ultimate reality was non-corporeal, consisting of an infinite number of substantial entities called monads. All divisions of space and time were adopted as a matter of convenience. Yet at the basis of this rejection of absolute space and time was still the transcendent presupposition of an ideal world, an ultimate reality, and a lower unreal world of phenomena and matter. We could with our bodies and intellects create a system of order and causation, nevertheless these systematic strategies were within the transcendent architectonic.

What might a non-hierarchical space devoid of transcendent structures actually look like? This questioning calls for no small amount of imagination and intuition. This space is in a constant state of becoming. The space flattens out - nothing is "higher" than any other thing even though dimension as situatedness exists. Indeed, from which viewpoint can we describe one point

in space "higher" than another? The hierarchical structures of a metaphysical architectonic collapse when a God's-eye-view can no longer impose order from "without", from without the structure, from without an inertial framework. Without God on high or the intellectual mountaintop of man's hubris,[6] from where do we look? From which eye do we look out? God, functioning with the system, imposed certain regulation upon which to definitively order and control the world. What other structures, without a necessary transcendent being, may we embrace instead?

Leibniz had described an active composite substance effecting and effected by a spatial environment. The world was literally a system of relations ordered by the perceiving monad, reflecting its universe. Consequently, the universe is created at every moment, collectively, in a series or repetition of a singular point-of-view. This point-of-view avoids becoming a gross subjectivity by interpreting *extension* not as distance but as an infinity of curves framing in a serial repetition. "Point-of-view" clearly becomes a pluralism, yet without lapse, void, or discontinuity. This extension is not a passive subject dominated by a universal or dominant vision. Furthermore, the monad is in dynamic interaction, engaging in a system of interconnectedness with other monads. The perfection is precisely defined by Leibniz as the degree to which the monad can oversee the entirety of the system, with God as the most perfect Being. In place of fixity comes instead mobility, morphosis, modulation, and mutability. Without a fixed God above us, we can no longer speak of *being* in space and time, rather *becoming* in space and time.

Constructing the Reticulum

If one accepts the thesis that ontology can be seen as an architectonic, then the possiblity opens up for the generation of new constructions. As a generated architectonic, the ontological structure of the **reticulum** could be productive. The concept of the reticulum is derived not only from Leibnizian metaphysics, but also from the Latin word, *rete* meaning net, or network. Although in contemporary terms this concept is derived from anatomy, meaning a network of nerves or blood vessels, or a system of intersecting fibers, or a genealogical schema, the term can be productive as an architectonic structure that addresses the critiques of Western metaphysics. As an interwoven combination of parts or elements in the structure, the reticulum provides a model of a unified whole.

In the reticulum, every monadic unit, as an autonomous yet interconnected being, expresses and is expressed; every monad transforms and is impacted by the transformation of other monads; every monad reaches out in desire *(l'appetit*) and freely attaches itself to other monads, changes internally, disperses, and then contributes to the formation of other subsequent aggregates of monadic substance. In contrast to the early Leibniz's conception of the monad "having no windows", the subtler later account of an active monad in a composite substance becomes a responsive model. Even though each monadic point-of-view can be thought of as self-generating, therefore spontaneous, there is still no complete theory to describe the point of interface with other monads, leading to instability in any notion of causal independence. For example, Edmund Husserl, inspired by Leibniz, made an attempt in his *Cartesian Meditations* to define the connection with respect to the impossibility of separate pluralities of monads. For Husserl, only one objective world necessarily exists. Yet, even though there might be a unity of monadic communities, this is not to say that these interconnections necessarily agree. Just as all monads are separate and autonomous, all monadic communities (although belonging to a unity) are not purely "overlapped" upon one another. Husserl states,

> This alone is possible: that different groups of monads and different worlds are related to one another as those that may belong to stellar worlds we cannot see are related to us - that is, with …[those] who

[6] Remembering, of course Nietzsche: "Oh, those Greeks! They knew how to live…Those Greeks were superficial – *out of profundity*. And is not this precisely what we are coming back to, we daredevils of the spirit who have climbed the highest and most dangerous peak of present thought and looked around from up there – we who have looked *down* from there?" Nietzsche, Friedrich; "Nietzsche contra Wagner" in *The Portable Nietzsche* translation W. Kaufmann (New York: Viking Press, 1969)p.683.

lack all *actual* connections with us. Their worlds, however, are surrounding worlds with open horizons that are *de facto*, only accidentally, undiscoverable to them.[7]

The precise nature of the connections between monads is one of the substantial bonds between metaphysical units. This problem is the same that Leibniz had in the end. As with the Leibnizian notions of intersubstantiality and inter-connectivity between monadic substances, the interface between monads in a linked reticulum or relationship is critical.

Without fixedness, without immutability, without absolutism, we are faced with a chaotic universe in which all objects in extension are relative to one another, fluctuating, transforming, and eternally mutating. Remembering, of course, that all monads are motivated not only by self-generation, but also effected by interaction with other monads, how can we describe the relational dynamic?

As a model of relations, the architectonic of the reticulum offers a descriptive structural possibility. With the decentralization of space itself, space can no longer be seen as geocentric or even heliocentric, but non-centric. As a consequence, relationships between objects must also be described in appropriate way. The model of a poly-centric structure is insufficient because every center is tied into other centers only *through* a dominant center – in Leibniz's terms this would entail the necessary inter-dependence of every monad, and indeed the interception of God in order to create any intermonadic relationship. In order to call into question the interpretation of the monadology as pure transcendence, not only the hierarchical spatial structures of the transcendent "above and below", but also a flattened out immanent structure, (even if it is an interdependent as opposed to dependent one) needs to be avoided. The reticulum, in converse, proposes a way to describe intersubstantiality as somewhere between independent and interdependent. Each "monadic-site" is its own center and generates its own relatedness with other "centers" as it were. Therefore, a complex set of relations link a site to its environment. Because every site links itself to other sites, each site is already at once interdependent in that every site is linked ultimately to *some site*. These interactions foray into the environment and independently make connections. The relations between sites can then be said to be "independent" because they are self-generated. Each body participates in an operation of continual creation, interconnecting with others in aggregates or monadic communities, unfolding at various accelerations over time, and preserving traces of the past in the infinity of positions in space/time relatedness.

These aggregates or assemblages of monads in the reticulum are constituted from heterogeneous elements, free to aggregate, coming together at certain moments, joining in space, and moving on at differing accelerations. So instead of "building blocks", monads come together to construct assemblages; that is also to say, constructions that are not permanent ones because at any point in space/time they can disband/dismantle and rejoin/re-aggregate in another configuration. Rather than constructing a metaphysical edifice in a linear temporal fashion, these aggregates of monadic substance form a dynamic serial chain in a multiplicity of becoming, in a multi-dimensional field of interaction.

In this way, complex and diverse elements can be grouped together so that they cooperate. Obviously, an enormous intensity of connections can be made in a hyper-dense environment. Yet organizing these connections need not be rigid. Two or more sites can be connected with a high degree of flexibility. Different levels cross and overlap, providing cross-connectivity. In contrast, a hierarchical ordering system as is commonly employed, requires all parts to fit into the whole, wherein what does not conform to the whole must be expelled from the system. The reticulum of monads, on the other hand, is able to organize complex and divergent parts into a whole by the provision of each being connected in some way to at least one other component of the system. In this manner, each individual component retains its singularity and individuality while contributing to a highly complex aggregated reticulum structure. Every node in the reticulum need not be connected with every other - just as long as it is connected somewhere. In addition, these connections need not be permanent; they are also determined in time, therefore can be fleeting and temporary. Each

[7] *cf.* Husserl, Edmund; *Cartesian Meditations: An Introduction to Phenomenology* translation D. Cairns (Dordrecht: Kluwer, 1991)p.140.

monad is free not only to connect in a manner meaningful to itself (thereby *creating* meaning spontaneously), but also to terminate and to re-initiate connections at will. Consequently, every assemblage evolves in time, constantly redefining their relation with others. Every monad is its own center, so that one can not even speak of de-centering or even poly-centricity in the ontological structure. The reticulum radically de-centers the architectonic.

Finally, and at the same time, the reticulum as a whole is interdependent because it relates this complexity of interactions in a spatio-temporal interface. The border conditions are not really "limits" in a hard and fast way. The boundary is defined by the self-generation of relations of the part of the site and a mutually responsive relation on the part of the environment. *In so far as each site generates its own relatedness, it is said to "exist"*. The environment in which the site has its relatedness is not a closed system, rather the impossibility of its finitude.

Conclusively, with the architectonic of the reticulum, a more nuanced view of the possibility of a non-hierarchical and dynamic notion of the monadology has been brought forward, in an ontotopology of beings that is a true unity without having to be necessarily transcendent. God does not occupy a place of a Being over and above, or beyond beings - rather, *within* an intersubstantial, interdependent connectivity of soul-like monads in a system of reticulance. The place of *ontos* in the reticulum traces the possibility of a sufficient *apriori* that is not necessarily transcendent. Rather, God, or any other transcendent Being exists merely and necessarily connected into the intersubstantial complexity of related monads in a continuum of perfection, not "above" or "beyond" other beings. With the architectonic of the reticulum, the structure flattens out into a radical immanence.

Obviously, the concepts of reticulum – an interrelated structure of autonomous monadic substances each with its own point-of-view - can only be viewed as suggestive and provisional. Yet we stand in a space/time of intervention and creation with the way in which space and time can be said to be constituted and constructed. We cannot escape the architectonic. However, the structures themselves should not be subsumed, rather be made explicit. To engage in a mendacious search for eternal foundations and indestructible building blocks is to accept uncritically the metaphysical presuppositions associated with this constructive enterprise. The architectonic of the reticulum acknowledges the multiplicity of metaphysical constructions, the dynamic nature of becoming, the autonomy of the monadic subject whilst at the same time providing a unified schema that makes comprehensible a system of interconnectivity.

The Necessary Components of the Reticulum

To summarize the features of the reticulum, the following schema of necessary components is proposed in order to construct a generative architectonic. The reticulum is the interconnection between all things in a continuum. Monadic substances are autonomous, free to determine the nature of its own being within the limits of its created boundaries, capable of dynamic motion, participating in the constant flux. Each monad chooses its own relations. The world is constituted in parts through monadic perception, yet is a whole system. Whole because of the unity of the architectonic is a non-centric structure, transcendent in that it is a comprehensive systematic or architectonic, not a transcendentalism. Every monad is in a system of relation, intersubstantiality. The "world" is per definition precisely this interconnectedness, where each monad is said to exist if it is connected within the reticulum. The reticulum is an immanent field of relations, with nothing "higher" or "lower", a kind of field of swarming dynamic changing gradation of perfection. This reticulum is a perfectly ethical system because each "act" immediately reflects and influences the "world" as connected system as a whole - constantly generating, never-ending. The reticulum is a fold or pleat in a three-dimensional field, intertwining space/time, and the intussusception of substance/phenomena. Material and substantial are merely extremes of ONE thing, one continuum. Being is One is Becoming, in a never-ending cycle of generation.

In the beginning we asked, given our study of onto-topology, if another architectonic structure was possible. Through a re-inscription of Leibnizian metaphysics, taking seriously both his dynamic relational concepts of space and the monadic point-of-view reflecting the

universe, an ontological structure emerges very much like an immanent reticulum of beings. This onto-topology could be then folded into questions of the late twentieth-century, yet still advocate a kind of continuum, an over-arching systematic rationality in order to tie together disparate elements. Although this architectonic of the reticulum has achieved de-centralization, it has not escaped from hierarchies, merely incorporated them with the relational structure.

Leibniz, in his architectonic of the labyrinth, attempts a reconciliation of preceding metaphysical projects. In transversing the labyrinthine maze, his metaphysics accounts for both the unchanging nature of being, as well as the dynamic nature of phenomena. He preserves a notion of the singular, free will, substantial monad conjoined in a pre-established harmonious world. In all things he seeks harmony, and through his architectonic of the labyrinth he attempts a true unity of the substantial and phenomenal by various means.

In this project of the reticulum, a possible generative architectonic is mapped out, a further addition to the field of metaphysical structures that populate the historical field of Western philosophy. This architectonic is not definitive, rather merely another onto-topological possibility. Obviously, ontological structures are many and varied. Metaphysics is seemingly a kind of construction, a mecanno set with the structural members comprised of foundations, edifices, planes, building blocks, beings, Being, etc.. Any architectonic is necessarily a construction. Consequently, as a construction, may we propose then another? Perhaps, then, an onto-topology might also be used not only as an analytical tool, examining the relationships between elements linked together in a system, but also generative of an architectonic in a connected whole that might overcome objectionable features of other metaphysical structures.

Not only does this architectonic of the reticulum describe the *viscera/vinculum* (attachment, connection, bond, relation, nexus, attraction, link, union, tie) tying together disparate elements, but also enables intersubstantiality to communicate. In the reticulum, the distinction between Being and beings falls away. Being is not an existent, rather a **relation**. Yet how does the notion of the *reticulum* contribute to a critique of metaphysics? Firstly, by showing the structure, the architectonic, in an explicit way. Secondly, by suggesting - although an architectonic is necessary - its form is optional. And finally, by proposing other structures, namely the **reticulum**, metaphysics can address more contemporary concerns. Admittedly, the architectonic of the reticulum is dynamic and process-oriented. However, with an emphasis upon the tolerance of uncertainty, metaphysics can *become*; that is to say, can be productive and attentive to generating thought that is continuous, yet not rigid.

To Begin Again

The reticulum proposed here is another onto-topology: a system of convergence, connection, and confluence. The reticulum is an architectonic structure that is perhaps more immanent, more broadly based, and pluralist whilst at the same time being a singular continuity, a whole. Yet it too will be merely among the many architectonic structures in the metaphysical landscape. For, as Jacques Derrida states:

> "Everything depends upon how one sets it to work….little by little [he says, we] modify the terrain of our work and thereby produce new configurations…it is essential, systematic, and theoretical. And this in no way minimizes the necessity and relative importance of certain breaks, of [the] appearance and definition of new structures…".[8]

So, to begin again, constructing a new architectonic, for this is the foundational occupation of philosophy.

Prior to all *apriori* intuitions of space and time lay the determination of philosophy itself as the founding/grounding/limiting of the possibility of all knowledge, whether reason or intuition,

[8] Derrida, Jacques; *Positions* translated by Alan Bass (Chicago: University of Chicago Press, 1972)p.24.

practical or pure. Like the surveyor who lays out the benchmarks and outlines the site for the excavation and eventual construction of foundations, philosophy is, at its ground, engaged in the construction or clearing or founding in order to ask the question, the question that "has always been asked". Therefore, philosophy, not just as a metaphysics of transcendence, but all philosophy dealing with the conditions of possibility of all ontology, is fundamentally an architectonic. Implied radically within the constructive enterprise is the notion that any project - whether Greek, or Modernist, or even contemporary - is and will remain a temporal construction, never complete, subject to decay, and perhaps eroded by future additions and interpretations. Any architectonic of philosophy necessarily implies a construction, destruction, and eventual re-construction of its projects. Kant, in casting his eye upon his predecessors, acknowledges that they too attempted to raise an edifice of philosophy; yet these structures, in his assessment, lay in a ruinous condition. In one regard, Kant was decidedly correct: all preceding philosophical edifices have merely "formed the commencement, rather than the conclusion…of the speculative efforts of the human mind".[9] In fact, the only project that remains, is simply to ask: what shall the philosophers, the "mighty geniuses of construction", build next?

[9] Kant, Immanuel; *CPR, op cit,* trans. Meiklejohn, p.478. {A852 / B880}.

Subversive Stitches and Revolutionary Knitting Circles. Between art and activism, DIY and prosumer cultures: Weaving new networks in times of Web 2.0.

Verena Kuni

What might needlework and web based practices have in common – especially when thinking about network theories, not to mention something like a "new network theory"?

On the first glance, drawing a relationship between knit work and networks will sound not at all "new". Rather, we find according associations as a standard metaphor used in any kind of internet and web related writings from early on. Especially whenever negotiations between digital and material culture are on request, together with the spider's web, meshwork was and is quickly at hand to provide people with an expressive picture, however problematic or even misleading such a shortcut may be. Moreover, also when talking on a more abstract level of language about networks we can find ourselves bound back to this image. Speaking of "ties" between "knots", of "density" or "stability", of "holes" within a "network" and so on – in short: of elements and qualities aptly describing a material structure made of threads bound, woven, crocheted or knitted together – seems equally appropriate for any network; be it based on technology, on social relationships, or – as in network cultures – probably on both. Not to mention the impact of these dense ties between the symbolical and the semiotic level of language, its metaphorical use and images when it comes to visual representations of network structures and processes, be them considered as models or mere illustrations.

While a critical reflection about a "new network theory" should indeed take a look at the reigns of metaphors and models as well, then main purpose of my contribution is to explore relationships between knit work and networks on a more literal level, focusing their manifestation within and at the intersections of digital and material cultures. However, this does not at all mean to loose sight of the main issue of the conference. Rather my aim is to argue for a "grounded network theory" that is not limited to digital cultures, but tries to embed both digital cultures and material cultures, digital and material, social and cultural, traditional and more recently developed technologies, and the mentioned intersection between them.

Craft, and especially needlework are usually considered as traditional techniques – and, in historical perspective, also as being part of a conservative educatory complex apt to train bodies and minds, "learning by doing", according to equally conservative power structures.

Accordingly, the fact that crafting communities and knitting circles from early on were also a place for social and political communication, and a fecund ground for subversive thinking and networking, has been widely ignored for a long time. Neither feminist art and art history, pointing on the aesthetic value of crafts and arguing against the gender-related hierarchies of art, nor early cyberfeminist theory that focused on the complex of "weaving and women" were able to bring major changes in sight – partly because their discourses were largely ignored as well, partly due to inherent essentialisms of their arguments that were critically debatable as well.

However, it seems that more recently the situation has changed in many aspects – as one can easily grasp browsing the World Wide Web, and some of its major new applications like weblogs respectively. Here we find not only the old tradition of "Revolutionary Knitting Circles" revitalized. Especially within and by the way of D.I.Y.- and crafting communities

using a whole range of more recent web applications together with other home made style activities also needlework and crafts experience literally a proper renaissance.

And while "craftivism" and "subversive stitching" are already considered as powerful cultural techniques for not only digitally connected networks of cultural jamming activists and related activities on both sides of the interfaces – in so called "meatspace" (or "meetspace") as well as online, others research on the cognitive impact of network aesthetics and ask in how far meshwork and crocheted may work as "philosophical toys" for mental training, its creation possibly to be used as a tool for understanding complex processes of theoretical mathematics and physics even.

But does this really mean traditional concepts of craft and needlework; their subsumption according to conservative patterns of perception as well as their connection to the mentioned educatory complex is set out of function? What are the driving forces directing the new codification – and do they really lead to alternative directions?
How do we have to judge the role of electronic media, and the new web "2.0" applications within these processes? And, last but not least, what can we draw from this for the field of network theories?

My contribution to the conference will take a closer look into this field and critically discuss these questions. Special attention will be devoted to tension fields like those between Do-It-Yourself, "prosumer" and consumer cultures and related developments of creative, aesthetic and political strategies; individual creativity and creative interaction; authorship, copyright and commons; nerd-fetishism, peer group orientation and social networking; a. o., including on all layers the mentioned gender-related issues as well.

From Network to Foam. Extending the dispositif of user interactions.

Mirko Tobias Schaefer

The digital culture unfolding on the Internet is widely described with the terms of the 'community' and the 'network'. However both terms tend to fail in describing and theorizing the complex and dynamic interactions of the plurality of human and non-human actors. In this paper I'll describe the limitations of the metaphors network and community. Following the trail of the Xbox Development Kit (XDK) from its original producer Microsoft to the communities of game console hackers, I'll demonstrate connections and causal dependencies between user communities and corporate companies and how they are embedded into the socio-technical ecosystem. In consequence this presentation raises the question which agency is causing the fixture of the foam we call digital culture.

THE LINK

Bird Flu as a Public Hype: Networks of Communication on the Web.

Lina Hellstern

The paper focuses on the dynamics of communication networks across the (medical) sciences, news media, and blogs during public hype on bird flu, 2005-2006. Theoretically, the study builds upon research on media hypes, dynamics of metaphors in science communication and sociological theory of communication, all of which have discussed the dynamics of cross-domain communications in society. The paper develops new approaches to the analysis of communication networks: Instead of focusing on hyperlink networks, the paper uses textual references to detect changes in the interactions between the domains, on the Web. The main research questions are: How do interactions between scientific and public communication networks change during a hype (inspired by media studies)? What are the possible, quantitative indicators for the changes in the interactions between such networks during hypes (communication sciences)? Does the use of certain tools of communication (e.g. metaphors) increase or decrease during public hypes (social studies of science)? The results show that the bird flu debate gained sudden momentum in all the three domains (science, media, blogs) in October 2005 when scientific results on structural similarities between the bird flu (H5N1) and the Spanish Flu virus were detected, and when the virus infected wild birds and poultry in Europe for the first time. This amplification of the debate seemed to invite more interactions across the domains, yet at the same time the debate fragmented over time.

Mapping, practicing and thinking "the InterNet" Challenging network thought in the context of online health information

Astrid Mager

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Abstract

In this paper, I will argue that the Web has no fix structure of information, but that we rather have to think of the Web as getting ordered in practices. Similarly to recent contributions in Actor Network Theory (ANT) I will elaborate, that multiple modes of ordering get enacted depending on the way we approach the Web. Taking three methodological ways of investigation, I will present a variety of modes of ordering information in the field of online health information. Concretely, I will map how four chronic diseases are ordered according to link structures employing the software Issuecrawler, I will elaborate how surfers move through and order Web information about one of the four diseases using an experimental set-up and I will analyse how both Web site providers and users reflect on and conceptualize their ordering practices. Further, I will present a repertoire of imaginations about ordering information online revealed in metaphors and pictures of "the Internet" expressed by users of Web information. I conclude that the dominant metaphor of the Internet as inclusive (information) network is challenged by multiple enactments of the Internet users produce when following and making their own structures and rationales. Finally, I will raise the question what the implications of these multiple modes of ordering Web information in terms of (politically) giving presence and absence to particular accounts of "reality" may mean in terms of "ontological politics".

This paper is written in the context of the research project "Virtually Informed – The Internet in the Medical Field", carried out in Vienna (project lead by Ulrike Felt, financed by the Austrian Science Fund (FWF), project number P 18006). For further information please go to http://www.univie.ac.at/virusss/projects/17/788. The Issuecrawler software is by the Govcom.org Foundation, Amsterdam. Further information: http://www.govcom.org

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Introduction: network vision, metaphors and modes of ordering knowledge

The great vision of the World Wide Web expressed by its inventor is "about anything being potentially connected to anything" (Berners-Lee 2000: 1). The euphoric claim accompanying this narrative is that a de-central network of knowledge would enable more freedom, than hierarchical knowledge and classification systems could ever allow. In analogy to the brain made up of neuronal networks, the Web is conceptualized as allowing for associative links between related pieces of information. Framing the Web as "global brain" (2000: 298) consisting of Web sites being interconnected with each other, the "reader" of the Web would have the possibility to browse the information universe by benefiting from links other users have put. This narrative evokes the imagination of the Web as inclusive information network without borders, hierarchies or limits. The Web sites are framed as lying equally next to each other constituting a democratic Web space. An implicit assumption made is that Web sites would thematically link in a meaningful way. The user, on the other hand is supposed to drift through the Web by easily surfing from site to site similarly to the Flaneur strolling through the streets of Paris. Useful pieces of information are lurking behind every corner of the global brain providing the post-modern Flaneur with an unexpected richness of information.

As the "global brain" in Berners-Lee's account, also the idea of the network itself is metaphoric. This is of interest as it has been shown that metaphors play a key role both in the

evolution of technoscience (Kay 2000) as well as in its communication to and uptake by wider publics. First, Metaphors are conceptual systems shaping the way we interpret and define reality (Lakoff & Johnson 1980). Particularly the Internet as an elusive and immaterial object has been laden with metaphors which try to convey a sense and an image of its shape. In this sense, the network metaphor may be seen as framing the Internet in spatial terms. Further, metaphors are not value-free. A metaphoric representation does not mirror the represented object, it emphasises a specific but contingent reductive perspective. In embodying a particular perception of the world, metaphors thus exclude and silence other possible explanations. Thus they may be seen as also having a normative dimension. Thirdly, metaphors do not only represent technologies, they may also drive technological progress as they push technological innovation beyond its present state. In this sense, metaphors do not only help us to think the Internet, but they may also be seen as revealing of different actors' imaginations of what the Internet will and should become (Wyatt 2000).

The history of metaphoric ways of representing knowledge systems does of course not start with the network idea. Historically, various modes of ordering knowledge have existed. Traditional classification systems such as the encyclopedia – but also libraries in a wider sense – organize knowledge in a hierarchical way. Consisting of categories and sub-categories the knowledge is structured following the principle of a tree. Accordingly, these epistemological systems of knowledge have become metaphorically shaped as "tree of life". Contrary to these hierarchical modes of ordering knowledge, the network has been linked to more flexible ways of providing knowledge. As early as in the mid-18th century, the French writer Denis Diderot and the natural scientist D'Alembert envisioned an encyclopedia with cross-references or hypertext elements, as we would put it nowadays. Their aim was to provide the "entire knowledge of the world" in a networked way responding to the complexity of the sciences (Selg & Wieland 2001). Nowadays, the network metaphor is conceptualized as intrinsically linked to the Internet as de-central information source well-corresponding to our complex and changing knowledge worlds (Deleuze & Guattari 1977)

Thinkers in the field of Science and Technology Studies (STS) have discussed that classification systems must not be understood as neutral categories, but rather as embodying socio-political values present at a particular time. Particularly in the medical field, it has been shown that categorisation means standardisation, which in turn means transforming the knowledge to fit the existing boxes (Berg 1997). In the field of botany, Londa Schiebinger has argued that gender ideology has crucially influenced how Carl von Linné and Erasmus Darwin have categorized the plants in the 18th century, and thus has determined the production of scientific knowledge (Schiebinger, 2004). Thus, ordering principles such as "the tree of life" or "the network" may not only be seen as simply structuring our knowledge, but as intrinsically connected to social values and notions of social order (Foucault1994). Also network metaphor has thus become a dominant image representing the perceived complexities of our post-modern society. Be it in the professional space or in the private sphere, we increasingly perceive structures and relations as networks or being networked.

Having the net(work) inscribed in both its name and shape, the Internet has euphorically been linked to globalisation, democratisation and empowerment discourses going far beyond Berners-Lee's imaginations. Particularly in its early days, the de-central shape of the Internet has been framed as paving the way towards the "network society" expected to leave classical hierarchies behind. Further, the Internet is understood as "new public sphere" allowing for participation and empowerment (Kahn 2004). In the medical sector, for example, the Internet is framed as giving access to a wide spectrum of health information empowering the patient (Hardey 1999). It has been argued, that medical knowledge increasingly "escapes" in the networks of contemporary info-scapes, where it can be accessed and appropriated (Nettleton 2004). Next to classical actors of the medical establishment like hospitals, insurance companies or the pharmaceutical industry, non-profit organisations such as self-help groups, individual patients or alternative providers get the possibility to share their expertise and experience online. Besides, new actors such as information platforms, discussion groups or

professional health portals enter the scene. In this sense, the Internet is supposed to give voice to alternative approaches otherwise widely silenced.

In this paper, I aim to unpack and challenge the often quite uncritically used network metaphor of the Internet. I will do so by discussing how the network metaphor is performed in different empirical settings, by showing the quite different meanings and political implications the "network-mode" of ordering information may have and by elaborating which other modes of ordering Web information emerge.

To do so, I will draw on multiple data sources. In will analyse network maps of communities of heavily interlinked Web sites and discuss how chronic diseases – Asthma, Rheumatism, Eczema and particularly Diabetes – are performed and ordered on the Web. In addition, I will use qualitative interviews with Web site providers to make sense of the maps. Secondly I will use video files of surfer's Web searches, log files, and qualitative interviews conducted with the surfers of Web sites and their hand-drawn visualisations of the Internet to elaborate: how people navigate through the Web and order the information provided when looking for one of the four diseases, and which imaginations of ordering information are enacted in narratives, metaphors and images of "the Internet" the interview partners articulate.

Researching "the Internet" – multiplying order

Investigating "the Internet" is a tricky endeavour. A whole new academic field has emerged dealing with issues involved in "doing Internet research" (Jones 1999) or "virtual methods" (Hine 2005). The question vexing this research strand is how to investigate this complex object in an appropriate way. In this paper, I'm approaching the problem of method from a different angle. Instead of asking which methods represent "the Internet" the best, I rather pose the question how the Internet is enacted in different methods.

Recent contributions in Actor Network Theory have argued that methods do not simply report on a given reality, but rather enact and perform social reality (Law 2004). This argument becomes particularly striking when thinking of the variety of Internet maps picturing and framing the Internet from a geographical perspective. If we consider images as embodying cultural values, the different kinds of visualizations may be seen as closely related to specific conceptualizations of the Web space (Rogers 2006). The popular visualisations of the Internet as network may for example be seen as re-enacting and strengthening the network metaphor with all its values attached. While this seems quite apparent regarding visualisation techniques, the performative character also applies to "classical" research methods. Discussing a number of empirical case studies, John Law (2004) has elaborated that objects are differently performed in different empirical settings rendering them slippery and multiple. Equally, Annemarie Mol (2002) has shown that the object of Atherosclerosis theoretically assumed to be singular is multiplied when investigated in different empirical sites in a hospital – as it is defined and performed very differently in any single site. The crucial question however is what these different enactments of objects and realities imply? One implication discussed in ANT is what has become labelled as "ontological politics". If methods are performative they give presence to certain realities, while giving absence to others, and then they "can also be judged politically as they "make certain (political) arrangements more probable, stronger, more real, whilst eroding others and making them less real." (Law 2004: 149). In this sense, methods must not be perceived as innocent. Rather, the choice of method becomes crucial in terms of (politically) shaping and strengthening certain accounts of reality.

Similarly, I argue that information structures or modes of ordering Web information do not exist per se, but are enacted in practices. Depending on the methodological approach chosen, different modes of ordering Web information are enacted embodying different political implications. Representing the Internet as hyperlink network, following the user on its way through the Web space or analysing images of "the Internet" enacts different realities of ordering, as I will elaborate.

Network theory & user studies: hierarchies, search engines, and politics of power

I will situate my project in particularly two research strands. First of all, I will draw on hyperlink research and network theory mapping and discussing link and information structures from a network perspective. Secondly, I will draw on user-based studies investigating how people surf through the Web.

Recent network theory has challenged the vision of the Internet as a randomly distributed network. Instead, it has been shown that the Web is made up of a few big hubs heavily interlinked, while other Web sites are only weakly connected and thus rather marginalized (Barabasi 2003). The original imagination of the democratic Web space may thus be seen as having displaced by the perception of the Internet as network having established inherent hierarchies. Employing a Web network location software called Issuecrawler, I'll elaborate how health-related Web sites and information is ordered on the Web following a network approach. As only Web sites sustaining two steps of "exclusion" are displayed at the network maps, the goal of the software is to enact networks of densely interlinked Web sites. The idea built into the software is thus to show "how hyperlinks demarcate associational space" (Rogers 1996: 37) and therefore breaks with the open ended-ness as articulated by Berners-Lee. Depending on the kind of links holding the network together, the networks displayed may be understood as "issue networks" being made up of Web sites dealing with the same issues or as "social networks" consisting of Web sites having affiliations with each other. Employing this method, I'll present how Asthma, Eczema, Rheumatism and particularly Diabetes are performed and structured on the Web, who the dominant Web sites or hubs are according to links, how they are interrelated with each other and what kind of associations are displayed. Additionally, qualitative interviews with selected Web site providers will reveal how they themselves interpret the performance of these link structures as network, which meanings links have for their particular Web sites and which modes of ordering are enacted when following the links.

Regarding the way Web information is navigated and ordered by surfers browsing the Web, I will embed my research in the field of user studies. User-based research has shown that people – both in Europe and the US – hardly employ links to surf through the Web, but mainly search engines. Thus, search engines get a significant power in terms of giving presence to Web sites. Introna and Nissenbaum (2000) therefore speak of politics of search engines. In this sense, the perception of the Web as inclusive health info-scape giving voice to alternative accounts may be seen as challenged. Generally, user studies employ statistical analyses of log files, quantitative surveys or laboratory settings (Jansen & Spink 2006) and may thus be seen as rather technically oriented. In the medical field, a number of studies involving experimental settings have been done as well. While there are studies arguing that people searching for health online have rather sub-optimal search techniques (Eysenbach & Köhler 2002), more qualitative research has shown that people have quite elaborated search and evaluation techniques when seeking for health online (Adams 2006). To observe how people navigate through and order Web information when searching for a particular disease an experimental approach was chosen monitoring and saving peoples' Internet searches. Further, qualitative interviews with the participants will reveal how they themselves reflect on their way of ordering information, which meaning both search engines and links have for them and which modes of ordering Web information are enacted in this particular setting.

Multiple types of data

The multiple forms of data this analysis is built on have been collected in the context of a bigger research project investigating the Internet as health information source in the Austrian context.

First of all, network maps for each of the four diseases have been developed with the Issuecrawler. Having started in autumn 2005, networks with different "starting points"1 –

[1] Depending on the research question, dominant actors in a particular field, a link list of a significant Web site or the first hits of the Google result list may serve as "starting points" being entered in the software. Those are the Web sites from where the software starts to collect outgoing links, performs a co-link analysis

choosing either lay-oriented or professional Web sites for example and particularly focussing on the Austrian Web space – have been developed. These have been updated twice a year till March 2007 to see if link practices change over time. Altogether about 24 networks have been developed for each of the diseases. In addition, qualitative interviews with 7 providers of different types of Web sites have been conducted. Five interview partners are concerned with Diabetes in various ways: Two are responsible for a self-help group, one is a Diabetologist having a Web site, one is a Diabetic running an information site (rather commercially oriented), and one is the PR manager of a pharmaceutical company producing insulin. Further, one interview has been conducted with the director of a Rheumatism self-help group and one interview has been done with the manager of a general health portal. All of the interview partners were kindly asked to picture the Internet by finding a fitting metaphor for and by drawing the Internet.

Secondly, an experimental approach has been employed to observe how people move through the Web when searching for information about one of the four diseases. Altogether 41 participants got a fictive scenario stating that they just come from the doctor having diagnosed one of the four diseases and having given them some additional information and medication. Feeling quite disturbed, they have the idea to turn to the Internet and search for whatever relevant for them in this particular situation. The search of the participants – varying in gender, age, educational background and Internet skills – lasted for about one hour and was stored as film and log file. In addition, qualitative interviews have been conducted after the search and the participants were also kindly asked to find a metaphor and draw a picture representing the Internet the best.

The interview material has been transcribed, categorised with the qualitative research software Atlas.ti and analysed following a Grounded Theory approach. The network maps, the film material and the drawings have been systematically screened and analysed by forming types.

Mapping the InterNet – enacting issue networks?

Looking at the Issuecrawler maps, the Internet is enacted as network of Web sites getting prominence – represented through the size of the nodes – by getting links from other sites being part of the network. Instead of lying equally next to each other, some Web sites have a more central and thus more important position than others according the logic of these networks. Further, densely interlinked Web sites are displayed closely together. Distance and closeness thus reveal information about the "neighbourhood" of Web sites according to their link practices.

Analysing the network maps, it turns out that all four diseases display what has been called issue networks previously, at least at first sight. However, while the Diabetes and Rheumatism networks display a huge number of Web sites specifically dealing with the disease, both the Asthma and Eczema networks hardly show any Web site being focussed on the disease itself. In contrast, the issue holding the network together seems to have drifted to more general aspects involved in the respective disease such as allergies or ecological food. Generally these link networks are quite stable, as Web site providers only seldom change or extend their link lists. The links were mainly assembled in the course of the site development and have only been updated from time to time since then.

Let me analyse the virtual network performance of Diabetes in detail: The network below displays a huge number of German Web sites – represented through green nodes – tightly clustered together at the bottom of the map and quite a big number of Austrian Web sites represented through the blue nodes. In the Austrian cluster a few Web sites are well-interlinked and thus constitute hubs positioned in the middle of the network. Except from one

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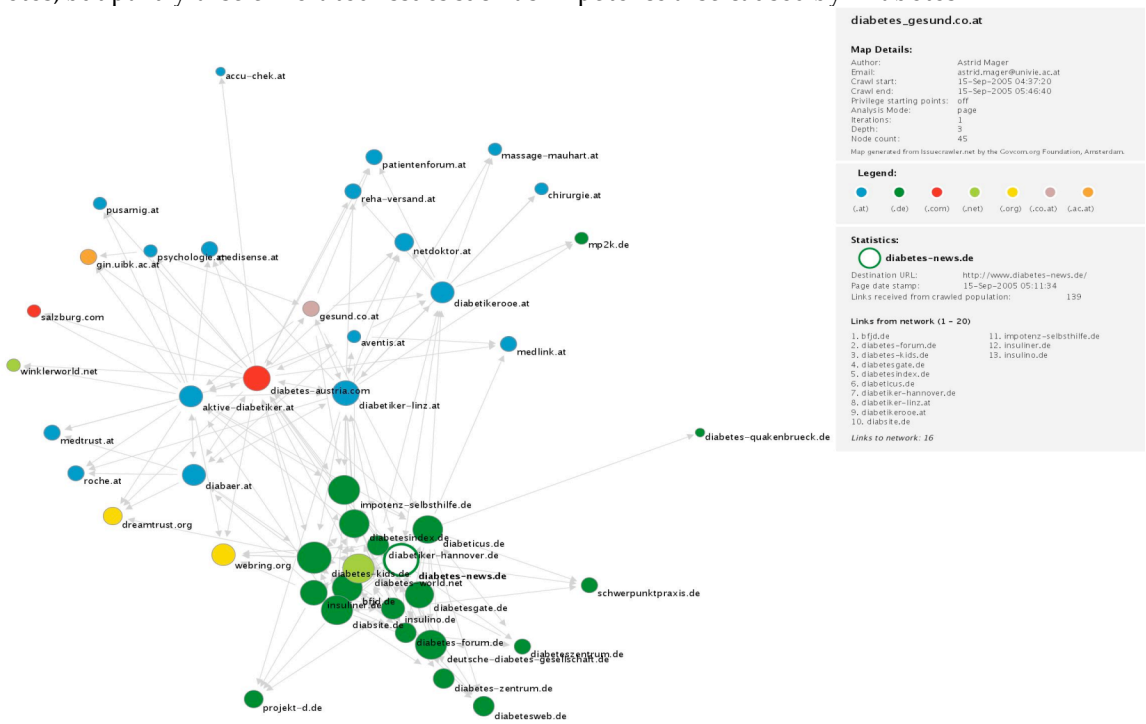
and visualises the Web sites getting at least two links from the starting points as nodes and their links as arrows in between.

site being rather commercially oriented, as the .com domain reveals, all of the prominent sites in the middle are classical self-help groups heavily linking to each other. Furthermore Web sites provided by the pharmaceutical industry, by individual doctors or professional health portals are intermingled in the Austrian cluster but have a less important position. The Austrian Web sites are strongly interlinked with the German Web sites mainly dealing with Diabetes, but partly also on related issues such as impotence also caused by Diabetes.



Looking at this network map (and the content of the Web sites displayed), multiple ways of ordering Web information according to link structures may be identified. First of all, the links run along topic-relatedness, as described earlier, re-enacting the vision of the Web as interconnection of related pieces of information. Nationality and language, for example, play a significant role as well. Lay-oriented Diabetes Web sites likely link to Web sites from the same country, what may be seen from the tight German cluster, and to Web sites being written in the same language. This is different in networks made up of professional medical Web sites linking much more global. Beyond this, other linking practices could be identified performing other principles of information ordering.

First of all, Links also run along social relations as turns out in the interviews with the Web site providers. All of the interview partners know most of the sites clustered around their own site. The Diabetes self-help groups for example know each other from their every-day work. Besides, they also know the specialists working in the field of Diabetes as well as the important pharmaceutical companies producing all kinds of devices Diabetics need. Contrary, both the doctor as well as the pharmaceutical company are aware of the self-help groups, as they have professional relations with each other. Thus, the network may be seen as re-enacting the Austrian Diabetes landscape of organisations and corporations working in the field of Diabetes. In this sense, the network may also be interpreted as social network displaying relations existing both online and off-line. This is also applying to the Rheumatism network, where the link structures mainly reveal information about the organisational structure of the international self-help movement "League against Rheumatism". In this sense, the link structures may be seen as "virtual" representations of "real" co-operations. Therefore, the network mode of ordering information displayed on the Issuecrawler maps may be seen as

performing multiple ordering principles of Web information going beyond mere thematic linking.

The *multiple modes of ordering Web information through links* may be seen as rhetorically reproduced and extended considering the Web site providers' point of views. It turns out that the meanings of links are closely linked to the functions of the Internet regarding their Web site as such. In principal, two different reasons why to run a Diabetes Web site are expressed:

First of all, the principal reason articulated is to inform, communicate with and help patients seeking for advice online. Conceptualizing the Internet as information source, all providers refer to their role of "empowering" the patient by informing him/her. In this context links are framed as clear *recommendation* for users. In this context, links are further shaped as *quality criteria* for the particular Web site. Trying to serve the user, the link list has to be carefully assembled to be sure that the quality of the information is reliable.

Secondly, more self-serving reasons are formulated in the course of the interviews. Framing the Internet as space to represent oneself, the goal to gain presence and popularity is implicitly expressed. Depending on the type of Web site, these motivations vary from extending ones "business card" in the virtual space, recruiting members or customers to simply living from the Web site in one way or the other. In this sense, links are perceived as *possibility to attract users*. A common practice in this context is to give a Web site a Link in order to get one back in return, dubbed "link exchange". Similarly understanding links as bridges between Web sites, the provider of the health portal draws a different conclusion from this link perception. He frames Links as *possibility to lose users* to other Web sites. Trying to keep the user "in the site", this Web site follows a "no link" policy except from linking to partner institutions or sponsors.

While the meanings of links presented so far imply that users would actually click on the links presented, there are different meanings of links as well. Sponsoring from pharmaceutical companies is common in the health sector. Self-help groups for example traditionally have contracts with companies to finance their work. In this context, links are conceptualized as simple *advertising*. Nobody would expect any user to click on these links.

Being asked if they ever thought about the way people stumble across their Web site, search engines are entering the scene. The narrative about the link as recommendation or to attract users is widely displaced when imagining the navigation behaviour of users browsing the Web. In line with the goal to gain visibility and popularity, another meaning of Links emerges not being visible on the Issuecrawler maps. Links are conceptualized as *tool to climb up the Google result list*, mainly articulated by providers of commercially oriented Web sites. Again, links have become uncoupled from the goal of serving the user. Instead, links are increasingly put on Web sites to affect the underlying mechanisms or politics of the Web for its own sake.

Considering both network maps and link conceptualisations by Web site providers reveal multiple ordering principles of Web information running along links. Besides topic-related link practices, three further practices have been identified. First of all, links are running along social relations and affiliations. Secondly, links reveal information about financial relations between Web sites and the pharmaceutical industry. And thirdly, links may be seen as following a technology inherent logic by simply pleasing search engines politics.

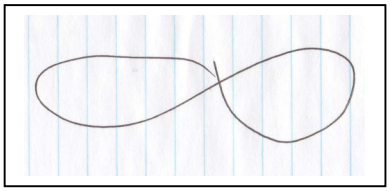
Practicing and thinking the InterNet: Efficiency, Google, Links and networks

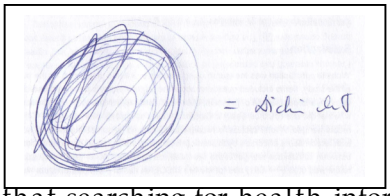
In the following, I will elaborate how people surf through and order health-related Web information as observed in the search experiments. Additionally, I will analyse how the participants themselves describe and frame their modes of ordering Web information in the interviews, and I will discuss rhetorically produced and hand-drawn pictures of "the Internet" in relation to particular modes of ordering particularly focussing on the network.

Google as "guide" through the Web

When talking about their use of the Internet as source for health-information, the participants regularly refer to the "flood of information" they are experiencing. While they appreciate the

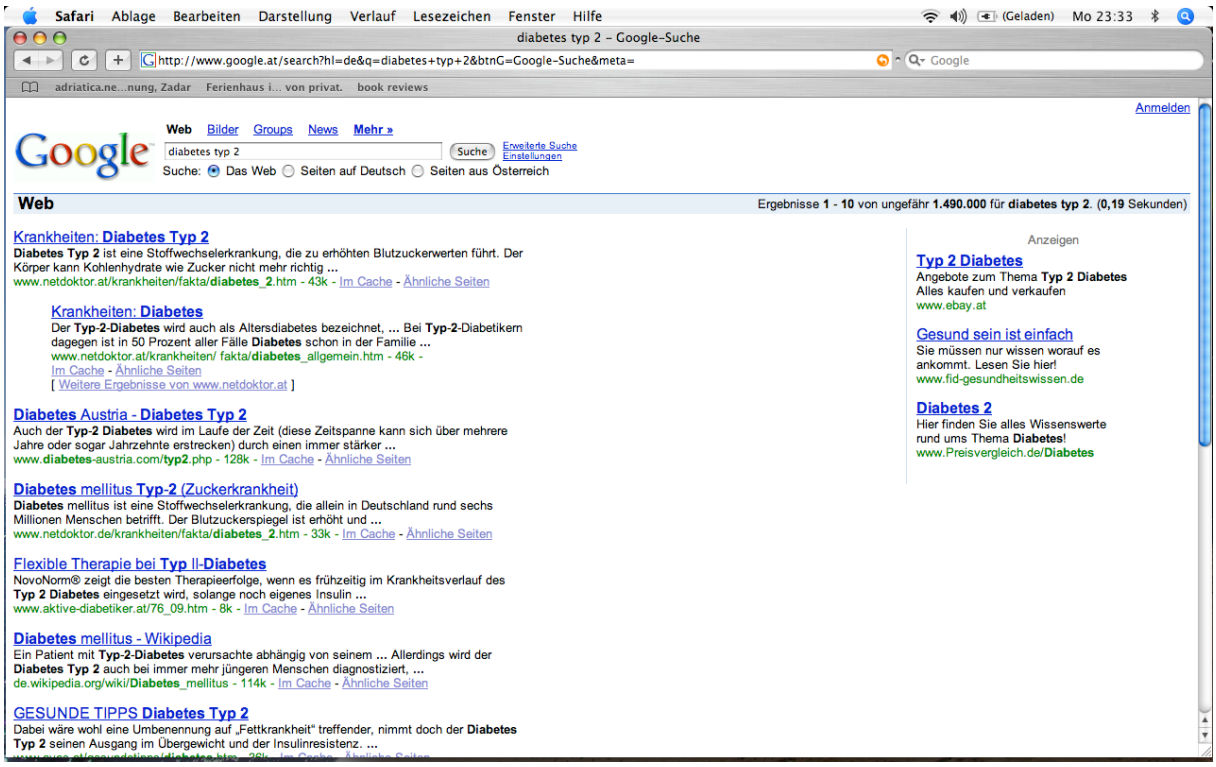
richness of information on the one hand, they also describe themselves as being swamped by it on the other. They express discomfort with the loads of Web information they are confronted with because they perceive it hard to handle. Some people were also referring to the richness of information when abstractly reflecting about the Internet labelling the Web as "endless information universe" or "plethora". Contrary, a number of people shape the Internet rather negatively as "information overkill" or "stimulus satiation". Others even tried to find a visual representation of this by drawing the infinite loop or simply a thicket representing "the Internet", as may be seen below:





This perception is accompanied by the imagination that searching for health information is something to be done efficiently. It is regularly described as looking for the "right" pieces of information based on "medical facts". In this sense, the participants want to keep control over their search. The wish to reduce the information complexity in a quick and efficient way demands for adequate structuring techniques. Search engines in general, and particularly Google, seem to be the perfect means to meet these users' needs.

Investigating how people actually move through the Web a one dominant mode of ordering Web information is performed:



Google may be interpreted as important "actor" in the search process. All participants – except from a few older ones having typed Goggl for example – used Google as preferred navigation tool when searching for one of the four diseases. Further, a common search routine could be

identified widely shared by the participants. This may best be described as "going forth and back" to Google.

As people generally start their search with the name of the disease – to get a general overview or a "definition" of the disease as some participants put it at first – and preferably click on the first Google hits, the well-visited Web sites are those on top of the Google result list. Those are mainly the big health portals and Wikipedia showing up on top (as may be seen above). This reveals the strong power of Google in terms of giving presence – and absence – to Web sites, particularly when considering that the participants mainly stayed with the first few links out of pragmatic reasons. The assumed de-central network of Web information may thus be seen as being transformed to a hierarchical list of (de-contextualised) entries narrowing down the richness of information to a few Web sites being dominantly visited. Therefore, people generally had the impression that alternative medicine is rather "hidden" on the Web. While people actively changing and combining keywords – those are mainly the ones being younger and technically skilled – reached information about alternative treatments quite easily, people rather reluctantly approaching the Web complained about the lack of such sites. Thus, one way of opting out of the "mainstream" information supply dominated by big Web sites may be seen in the specification of the keywords.

As all the participant mainly employed Google to navigate through the Web, the dominant way of ordering information is determined by thematic keywords and a pre-selection of Web sites automatically provided by a piece of software. The reasons for this become clear when people reflect about their own ways of ordering Web information.

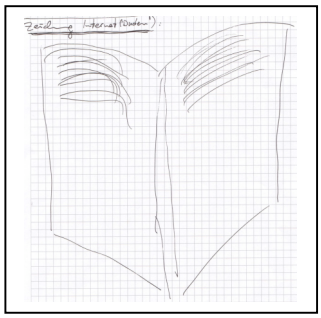
People generally *frame Google as directory through the Web* in order to keep control over their own search process. Google may be seen as providing a good possibility to not "get lost on the Web". It provides an initial point to where people can always "go back" in case of trouble. They thus shape it as "main framework" or "skeletal structure". One participant for example puts it like this:

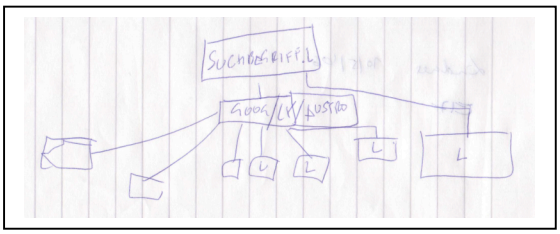
> „The first initial point was Google, then some sites and always back to Google and looking what comes next. But from the sites, however, looking through the links, ramification. (.) Basic structure is Google for sure." (E3, male, age 19-25)

Thus, Google is perceived as convenient tool giving the huge amounts of information an order to be worked off in a linear way. It thus well-corresponds to the articulated need for quick and efficient information acquisition. Instead of easily strolling through the Web, the user is driven by lack of time and therefore in search for pre-selection. Besides simplifying the search process, Google also makes the virtual routes traceable and more easy to remember. Talking about a particular Web site, one provider for example referred to the cognitive function of Google:

> "Although, I could not really say which Link it was, because one hardly remembers the Internet addresses. One rather remembers, that one typed a particular combination of keywords in Google and that the site was the third entry." (E30, male, between 19-25)

The perception of Google as providing a convenient order of information to be easily worked off is partly reproduced when people are thinking and picturing the Internet. Parts of the participants naturally integrate Google when reflecting about and picturing the Internet as such. When Google enters the picture, images such as the ***encyclopedia or lexica*** are chosen as characterising the Internet the best, as may be seen on the left picture below:





Representing the Internet as Google again, another participant draws a picture showing a different mode of ordering, as exemplified on the right picture: The keyword is drawn on top, Google is framed as obligatory passage point in the middle, which is seen as predominantly giving access to the single sites arranged at the bottom of the picture. One link (at the right side of the picture) however goes directly from the keyword, respectively interest, to a Web site signifying the direct access of a Web site without using a search engine. When looking at this picture, classification systems structuring knowledge following the principle of a tree come to mind again in the shape of Google. By rhetorically referring to the encyclopedia and drawing tree-like images the vision of hierarchical modes of ordering information are re-enacted in regard to the Internet.

Although heavily relying on Google in their search process and rhetorically reinforcing its dominance, its way of functioning remains completely *black-boxed* to them. Hardly anybody of the participants knows how Google technically works and ranks its results. Some further ad that they would not understand it anyway. The pragmatics is in the foreground once again. Comparing Google to a car, one participant for example formulates that the only important thing to him is that it works:

> "I'm only a user. Well, like driving the car: I get on, start the motor and drive.
>
> *Interviewer: As long as you arrive where you want to be.*
>
> Exactly, yes. And that is also the same with the computer and respectively the Internet. What is happening in the background, does not really concern me." (E20, male, 41-60)

Opening the black box by explicitly asking them about Google, a quite strong scepticism towards Google's ranking mechanism is expressed by the participants however. Stories about manipulation, "buying oneself into the list", Web sites getting "pushed up" and the like are regularly formulated. The most common belief is that Google is commercially oriented and therefore manipulated in multiple ways. Another narrative is that the Web sites being visited the most often are the ones listed on top. Only very few participants however mention links as ranking criterion.

While the participants widely rely on Google as mode of ordering Web information, they completely ignore the underlying mechanisms constituting their information order. Furthermore, the scepticism surrounding Google may be seen as being ruled out by the pragmatic need for quick and efficient information acquisition. But what about Links?

Chaotic Link networks

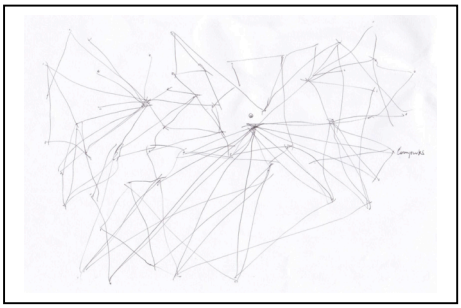
While most of the participants exclusively configure their search with Google without ever clicking on a single Link, others *additionally use Links* to order the health information provided. A common way of using Links is to click on them, to search through the connected site if it meets the participants' expectations, and to go back to the Web site they originally have come from. It thus happens that Link lists could serve as equivalent to the Google result list. Similarly to Google, people also go "forth and back" to the Web site providing the links not having much in common with the envisioned way of strolling through the Web in a networked way. The reasons why Links only play a secondary role become clear when analysing how Links are conceptualized by the participants.

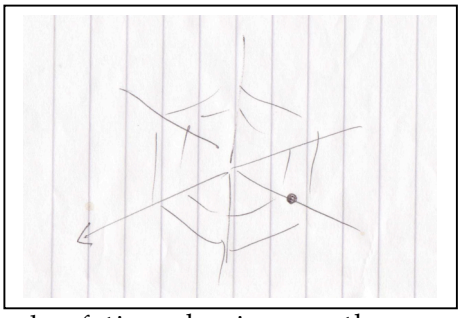
Contrary to Google, Links are widely shaped as *chaotic, complex, misleading and time consuming*. One reason for not using Links participants regularly mention is that they lead them away from their topic. Furthermore Links are associated with "disorder" and "to lose oneself" on the Internet. One participant puts it like this:

> "Somehow, I think, for half an hour I have really (.) lost myself on the Web and was forwarded by any Links (.) strayed, it seemed to me. And I have not found anything, where I would say, well, with this you can now work or search further." (E1, female, 26-40)

Links are also associated with promotion. Some participants perceive Links simply as advertisements for products annoying the user as leading him somewhere one does not want to be. In this sense, Links are rather perceived as un-ordering the Web information than helping to find useful things through associative interconnections. Only a few people mention that navigation by Links would lead to more specific pieces of information. Reminding of the vision of the Web as network interlinking related pieces of information or Web sites, one participant concludes that Links could provide more "approved" knowledge for example. Other participants similarly conceptualizing links as topic-related interconnections between Web sites mentioned that they would only use links from Web sites they either know or especially trust. Further, there are hints that people are more willing to "let themselves lead by the Web" when looking for a topic of particular interest to them, such as music for example.

While the network vision of the Internet plays a rather marginalized role considering the way people actually browse through the Web and order the information, the network nevertheless turns out to be "the" image representing the Internet. Quite a number of the participants spontaneously refer to the network when abstractly thinking the Internet. Similarly to the chaotic link structures, a couple of participants draw the Internet as chaotic network, as exemplified below at the left side:

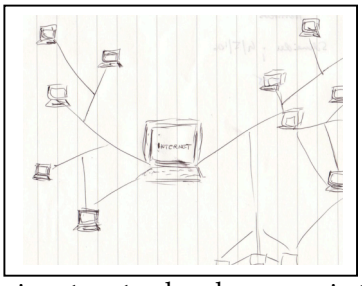


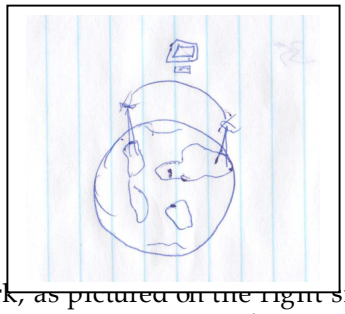


In this context, the spiderweb is mentioned a couple of times having a rather negative connotation. One participant uses this picture to express her diffuse feeling that someone is "pulling the strings". Another participant perceives himself as spider being "mired" in the thickness of the network. While drawing the Internet as spiderweb (as seen on the picture on the right side), he enacts a rather chaotic and disordered picture of the information network enlacing him. While drawing, he says:

> "This is supposed to become a spiderweb, yes. And there somewhere I'm sitting and try to keep connected and that does not work always. Well, mired in the Web.
>
> *Interviewer: And do you feel trapped? Or would you know the way out?*
>
> The way out I always find. In case of emergency I unplug (laughs). Well, the way out is always easy. The way in is more difficult."
>
> Being asked about the function Google has in regard to the network, he spontaneously enacts a very different mode of ordering:
>
> "Well, I would compare Google to a library (.) to a library with various subject areas, there is technics, there is medicine, over there is however, biology. And then I go to a shelf and begin to rummage. One starts somewhere and yes.
>
> *Interviewer: And is it well-assorted, do you think, the library or rather badly?*
>
> Yes, yes. Well, the library is well-assorted." (E38, male, older than 60)

This again mirrors the crucially different modes of ordering attached to Links on the one hand and Google on the other. Besides the representation of the Internet as chaotic Web, the network image implies further imaginations going beyond chaos. Shaping the Internet as computer network for example gives the Internet a rather ordered image, as may be seen on the left side:





The most dominant metaphor however is the global network, as pictured on the right side for example. Although people predominantly use German-speaking Web sites, they regularly praise the access to global information when abstractly reflecting about the Internet.

Considering the way people browse and order health-related information and the way they conceptualize their search and ordering practices, the network vision of the Internet only plays a marginal role. Instead of following Links Web site providers or other users have put, they prefer to use an automatic pre-selection performed and provided by a piece of software. This is particularly interesting as they neither know Google's technical mode or functioning, nor do they blindly trust Google. They even assume that commercial principles would influence and determine the result list. Contrary to Links being refused not least out of commercial reasons, they may be seen as more willing to accept commercial principles of ordering Web information when performed by a machine.

When rhetorically performing and drawing "the Internet" as such, the network becomes an important image. Multiple networks with multiple modes of ordering the Web (information) emerge. While some networks are again linked to chaos, others imply different visions such as the global scale of Web information or simply the Internet as assemblage of technical components. Google in contrast is associated with a rather ordered image of the Internet.

Discussion & concluding questions

In this paper, I have discussed multiple modes of ordering Web information in the context of health information. Challenging the metaphor of the Internet as inclusive information network, I have argued that Web information structures do not exist per se, but are rather enacted in practices. Similarly to recent work in ANT, I argue that different modes of ordering Web information are enacted when employing different research methods and tools. Combining and integrating a set of different methods, I have concretely investigated how the network metaphor is enacted in Internet practices and narratives, which other modes of ordering are performed and which meanings and images are attached to them.

At first, I have employed the software Issuecrawler to ***map*** how Asthma, Eczema, Rheumatism and particularly Diabetes are performed on ***the InterNet*** according to hyperlinks enacted as network of densely interlinked Web sites demarcated through associations. Additionally, qualitative interviews with selected providers of health-related Web information have been conducted. Analysing the network maps in detail it turns out that all four diseases are enacted as issue networks composed of Web sites thematically linking to each other at first sight. Considering link conceptualisations by Diabetes Web site providers, further ordering principles of Web information running along links emerge. Besides topic-relatedness, links are running along social relations and affiliations existing in "real life" and being "virtually" re-enacted. Further, links reveal information about financial relations between Web sites and the pharmaceutical industry. However, when the user comes at the centre of attention, Google enters the picture. Thus, links may finally be seen as following a

technology inherent logic by simply pleasing search engines politics to climb up the Google result list.

Secondly, I have observed how people seeking for online health information ***practice***, order ***and think the InterNet***. Further, qualitative interviews have been conducted with the participants after the Internet search experiment. In this empirical setting, it turned out that Google may be seen as dominant actor pre-selecting and ordering the information. Contrary, the network vision of the Internet only plays a marginal role. Analysing the underlying meanings of these modes of ordering, Google is clearly framed as directory through the Web providing a convenient information structure to be worked off in a linear way. Links, in contrast, are perceived as chaotic, misleading and rather disordering the Internet. The interesting aspect however is that contrary to Links being refused not least out of commercial reasons, the participants are more willing to accept commercial principles of ordering Web information when automatically performed by a machine such as Google.

Having employed multiple methods, multiple modes of ordering Web information have been enacted and multiple visions of the Internet have been shaped. This suggests that the Internet must not be perceived as stable technology, which may be represented by one single metaphor such as the network, but rather as differently enacted and shaped depending on the way of approaching the Web. The crucial question however is what the consequences of these multiple enactments of "the Internet" may be. As some enactments are more dominant or successful than others, a set of sub-questions has to be answered at first: How do the multiple realities of the Internet relate with each other, which ones are more dominant than others and why? Or to put it in terms of "ontological politics", the critical question will be: What kind of Internet enactment has which forms of politics inscribed? Which politics is pushed forward by giving presence – and absence – to particular accounts of "reality" such as the network? I have given some hints on this through this paper. While the mapping approach tends to produce more "networked" and non-hierarchical images, more hierarchical modes of ordering become visible in a user-centred approach.

In terms of Internet research, we finally have to pose the question which politics we may strengthen when analysing "the InterNet" with one method or another. Taking the performative character of methods seriously, the choice of method – and metaphor – becomes crucial. Whether to choose mapping tools enacting the Web as network, user-based methods performing search engines as central actors or to analyse Internet metaphors would then mean to (re-)enact and strengthen certain accounts of reality. Putting the focus on "(New) Network Theory" may then be seen as manufacturing and pushing forward a particular concept of reality, while fading out others.

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From ad-hoc to infrastructure: The lifecycle of hyperlink networks and its implications for social, cultural, and political activity.

Clifford Tatum and Kirsten Foot

Presented by Clifford Tatum

Based on our examinations of several hyperlink networks over time, we find what appears to be a distinct network lifecycle that results from the coproduction of informational and structural resources on the web. In this paper we propose that the lifecycle of relatively durable hyperlink networks includes three key stages: the ad-hoc beginnings of a network; a critical period of growth and innovation; and then increasing stability as the network becomes infrastructure for the actors that were involved in its initial creation, and others. To the extent that hyperlink networks reflect this lifecycle, there are several implications for the social, cultural, and/or political activities through which the networks are created. Networks that become infrastructure are broadly available resources appropriated in new rounds of activity, and upon which new layers of activities are inscribed. Understanding the lifecycle of a durable hyperlink network helps illuminate how individual and aggregated actions of web production in the context of broader human activities create online structures that may catalyze and/or constrain future activities in particular ways.

Assessing Virtual Issue Networks: Transnational Advocacy in Real and Cyber Space

R. Charli Carpenter

To what extent do online issue networks serve as a proxy for their real-space counterparts in structure and substance? This question is significant because a number of scholars have begun to study transnational advocacy networks through reference to their representations online (Rogers and Marres, 2000; Halavais and Garrido, 2003; Bai and Choi, 2000; Hine, 2000; Carpenter, 2007). The rhetorical content of websites, the accompanying images, the way content is categorized and the way in which different themes and frames are connected in cyberspace are said to affect the construction of advocacy frames in transnational civil society. An assumption is that online action can be understood as a proxy for actual network activities, whether because it reflects or drives transnational advocacy. But how helpful a proxy for transnational action is online activism? Can researchers of transnational advocacy networks rely helpfully on advocacy websites as a proxy for interviews or surveys with actual transnational activists?

I explored this question by attempting to measure the gap between the real-space advocacy network around "women, peace and security," as operationalized through a web-based survey of actual activists, and the network's online representations of itself, as measured through advocacy websites. Two specific concerns drove the study. First, how closely does the *structure* of issue networks as represented on the World Wide Web correspond with actual advocates' understanding of the players within a specific issue domain? To capture network structure, I compared hyperlinks among advocacy websites in the WPS network with survey responses from actual participants in that network to determine whether hyperlinks provide a useful proxy for advocates' understandings of who the "gatekeepers" in a network are, as a number of studies have suggested.

Second, to what extent does the online *issue agenda* correlate to the most prominent issues described by real-space advocates within a transnational network? To study how closely advocacy websites reflect an actual network's political agenda, I compared the prominence of specific issues online in this network, as determined by a content analysis of advocacy websites, to survey responses regarding the "most important issue." This method follows scholars of domestic agenda-setting in attempting to capture the "agenda" in both online and real-space transnational sites and examine the extent to which they correlate or, alternatively, seem disconnected.

While data is still being analyzed, preliminary findings are as follows: hyperlink analysis is an effective tool for identifying the "hubs" or "gatekeepers" within a specific issue network, but is a blunt tool for capturing the broader network, because it produces false positives and can miss peripheral organizations lacking IT savvy but who nonetheless are acknowledged by real-space activists to play an important role in the network. Additionally, survey responses from real-space activists suggest a more nuanced understanding of what constitutes a network "actor" than the websites can provide.

The paper is organized as follows. First, I discuss the literature on transnational advocacy networks and approaches for integrating the study of web-based advocacy into the study of transnational agenda-setting. Second, I explain the methods used to examine the correlation between online and real-space descriptions of the network and the network agenda. The final section outlines the preliminary findings.

Transnational Advocacy Networks and the World Wide Web

A proliferating literature in international relations theory now explores the impact of transnational advocacy networks (TANs) on global public policy-making (Keck and Sikkink, 1998; Khagram, Riker and Sikkink, 2002; Florini, 2000; Burgerman, 2001; Thomas, 2002). TANs are transnational networks of activists motivated by shared principled discourse and aiming to affect political behavior through moral argument (Price, 2003). All social networks are "network[s] of meanings" (White, 1992:67); advocacy networks are networks of principled meanings. In the area of human rights, the principled meanings have to do with the rights and obligations between political actors and human beings (Keck and Sikkink, 1998; Risse, Ropp and Sikkink, 2002; Hawkins, 2002; Thomas, 2002; Joachim, 2002). Linking insights from social movement theory, IR constructivism and sociological institutionalism, this literature has documented the role by played by civil society actors as agents of change: setting the international agenda, teaching actors new norms, monitoring of compliance with standards, and shaming norm violators (Price, 2003).

As much of the literature on TANs has long noted in passing, contemporary transnational advocacy is heavily reliant on global communications networks, including the Internet (Price, 2003). This arguably makes websites a useful source of data on advocacy networks themselves, the issues on or off the agenda, and the nature of advocacy discourse. The early work in this area centered primarily on the World Wide Web as a conduit for transnational political mobilization, but newer scholarship at the intersection of transnational social movement theory, network analysis and computer-mediated communications studies suggests that the web itself is constitutive of transnational advocacy agendas and communities. Thus, it is argued that studying online activism is not only interesting in itself but can provide methodological leverage in the study of real-space advocacy networks. This is said to occur in several ways.

> First, arguably, web analysis can tell us something about the constituent actors within a network. A common methodological difficulty in studying advocacy networks is identifying a population of constituent organizations. The nebulous nature of advocacy networks presents a challenge when attempting to sample advocacy discourse in a particular issue area or drawing a representative sample of respondents for survey or focus group research. Methodologies such as hyperlink analysis provide a possible solution: a means of identifying the constitutive organizational actors within a network as it exists in cyberspace (Wasserman and Faust, 1994). The assumption is that hyperlinks between online organizations are not simply an instrumental means by which to nagivate from one cyber-locale to another: they also constitute recognition of organizational membership in a community of understanding (Barabasi, 2002:5; Henzinger, 2001:45).[1] Within advocacy communities, linking practices between organizational websites in cyberspace function as do academic citations, providing indicators of who is considered a member or a player within a specific community of shared knowledge and practice. Thus, hyperlinking practices can be used as one indicator of the constitutive elements and boundaries of advocacy networks (Adamic and Adar, 2001).

Second, it is argued we can learn something about structural relations within those boundaries: hyperlink analysis tells us who the leaders or authorities are within the network, as represented by the relative number of incoming and outgoing links (Park and Thelwall, 2003). Of major importance to studying the agenda are identifying the network "hubs," expected to play a disproportionate role in agenda-setting and therefore of importance in drawing a weighted sample of sites to study. This is because, as Lake and Wong (2005:2) have demonstrated, in transnational advocacy networks, "nodes in networks are not equal": that is, some entities have much greater influence, operationalized as relative connectivity to the rest of the network, than others. Since it is these "key" organizations or "gatekeepers" whose adoption of a specific issue weighs in most in the process of international agenda-setting and advocacy (Bob, 2005), it is important to identify these particular actors relative to others in a particular issue network.

Third, websites arguably provide researchers with a rich sample of advocacy network discourse convertible to text files whose content can be systematically analyzed using computer-

[1] A recent analysis by Bae and Choi (2000) suggests that this type of linking practice is particularly relevant in the transnational human rights sector.

assisted qualitative data analysis techniques. Such content analysis allows researchers to study the rhetoric of those specific organizations, as exemplified by their advocacy presence in cyberspace, in order to determine the salient themes and absences. This combination of hyperlink analysis with systematic qualitative analysis of web content is similar to what Foot and Schneider call "web sphere analysis": an analytical strategy for studying "communicative actions and relations between web producers and users developmentally over time" (Foot and Schneider, 2004). This methodology is predicated on the notion that the World Wide Web is more than a means by which network actors associate and signal membership in a community of meaning: it is also a virtual context in which they *construct* shared meanings. "In creating an online persona, NGOs engage in framing activities... by shaping the ways that issues are conceptualized and understood" (Warkentin, 2001:36-37).

The common assumption underlying these approaches is that a significant correlation exists between on the structure and content of online advocacy and the structure and content of real-space advocacy networks. Websites are thought to both reflect and construct organizational actors, their relations, and the transnational agenda; and therefore to be helpful if imperfect proxies for actual transnational networks (Carpenter, 2007a).

But is this the case? There are several reasons to question whether websites accurately reflect actual network relations. Some studies have empirically demonstrated that domestic issue networks do mimic their online counterparts to a surprising degree (McNutt, 2005). However, this may be less true in the transnational sphere, in which great discrepancies exist between network members' abilities to access the Internet or the skills required to build and maintain the types of websites that would be likely to attract traffic and reciprocal links. Moreover, linking practices between websites (or their absence) may or may not be systematic indicators of network membership, as some advocacy sites link to their targets of influence as much as to their counterparts. Additionally, since some advocacy organizations are members of multiple issue networks, link analysis may over-represent or distort the constitutive actors in a specific network.

The extent to which the online issue agenda keeps pace with the agenda within real-space networks is also an open question. For example one informant from a leading human rights organization told me that the content of that organization's website was idiosyncratic as much as systematic, and often outdated. She thus cautioned against relying on web content as an indicator of transnational network politics.[2]

In this paper, I examine whether the extent to which the WWW is a viable proxy for heavily transnational communities of meaning. How accurately does the analysis of online networks allow us to operationalize both transnational networks themselves and the set of meanings prevalent within their discourse over a particular time period? To what extent can studying advocacy websites substitute for conventional social science methods for studying transnational communities themselves?

Methodology

I explored this question by gathering data from both the web and real-space for the transnational network around "women peace and security" (WPS) in Spring of 2007. "Women, Peace and Security" is a recently defined issue area within global politics, forged out of a coalition that sought to place women's concerns on the agenda of the United Nations Security Council. This campaign resulted in the adoption of Security Council Resolution 1325 in October 2000, which called for greater representation of women in national and global security institutions, peace negotiations and peace operations, and for a mainstreaming of gender concerns in security sector reform. The resolution has been both lauded by women's groups as representing a heightened commitment by international institutions to consider women's concerns a component of "high politics," and also criticized for essentializing women and gender

[2] Personal conversation, Oslo Norway, June 2006.

issues. Since 2000, the same network has focused on lobbying for implementation of the resolution in various policy fora, which has turned out to be more difficult.

The "Women, Peace and Security" network was chosen as a hard case. Transnational women's movements are often said to be less hierarchical, more bottom-up and diffuse than other forms of social mobilization because feminists are more committed to inclusivity of developing world perspectives, to creating consensus, and to transnational solidarity as an ends as well as a means (e.g. Sheldon, 2006). To the extent that web activism by definition locks in North/South hierarchies, perpetuates hegemonic issue frames, or locks in a privileged, Western view of a particular issue, we might expect the gap between online and real-space conceptions of the network and the issue agenda to be particularly great around women's issues. In this sense, this network represents a hard case for a close association between real-space and online constructions of the network/agenda. But if this gap appears to be relatively small, it suggests that the shape of the online issue sphere might be dependent on the structure of real-space networks, suggesting that it indeed could be a useful proxy for other types of issues as well.

TABLE 1.
Data Sources/Methods

	Online	**Real-Space**
Actors	Hyperlink Analysis	**Surveys:** "Most Involved Organizations"
Issues	Content Analysis of Website Mission Statements	**Surveys:** "Most Important Issues"

Four types of data were gathered on the WPS issue network: data on the network itself, as represented in cyberspace and as reported by activists, and data on the issue agenda, again online and in survey responses. [SEE TABLE 1.] First, co-link analysis was performed to identify the organizations composing the network and rank them according to centrality within the network. The link analysis was performed using Issuecrawler, an algorithm developed by Govcom.org at University of Amsterdam.[3] IssueCrawler permits the graphical representation of issue networks in cyberspace by identifying those websites receiving two or more links within a cluster of sites relative to two or more "starting points." As starting points for the analysis, I used the organizations listed as members of the NGO Working Group on Women, Peace and Security. A list of the resulting WPS network web-pages, ranked by in-link density, appears in Appendix 1; a visual representation of the network appears in Figure 1.

Second, I compared these data to results from surveys conducted with real people self-identified as within the WPS network between February and April 2007. A web-based survey was constructed using SurveyMonkey software and disseminated through several listservs identified as being specific to the issue area of "women, peace and security" or "gender and security."[4] Respondents were asked to name the three organizations that came to mind when they thought about the network. They were then asked to rank a set of organizations drawn from the co-link analysis results to see how accurately link analysis predicted the perceptions

[3] See http://www.issuecrawler.net.

[4] These included Women-Peace-and-Security@list.web.net, run by the Gender and Peacebuilding Working Group of the Canadian Peacebuilding Coordinating Committee; and genderssr@un-instraw.org, the Gender and Security Sector Reform listserv of the United Nations International Research and Training Institute for the Advancement of Women.

of actual network advocates as to how central different organizations in the network are. Forty-seven surveys were collected between February and April 2007, after which responses were compared to the analysis of the same network as represented in cyberspace.

Third, we sought data from both online and survey sources about the issue agenda. Survey respondents were asked similar questions about the agenda as about the network itself: what issues came to mind, and then which issues among a list were more or less prominent in the network. We converted the open-ended questions to .txt files for analysis. This text was compared to a content analysis of mission statements from organizational websites appearing in the Issuecrawler output.

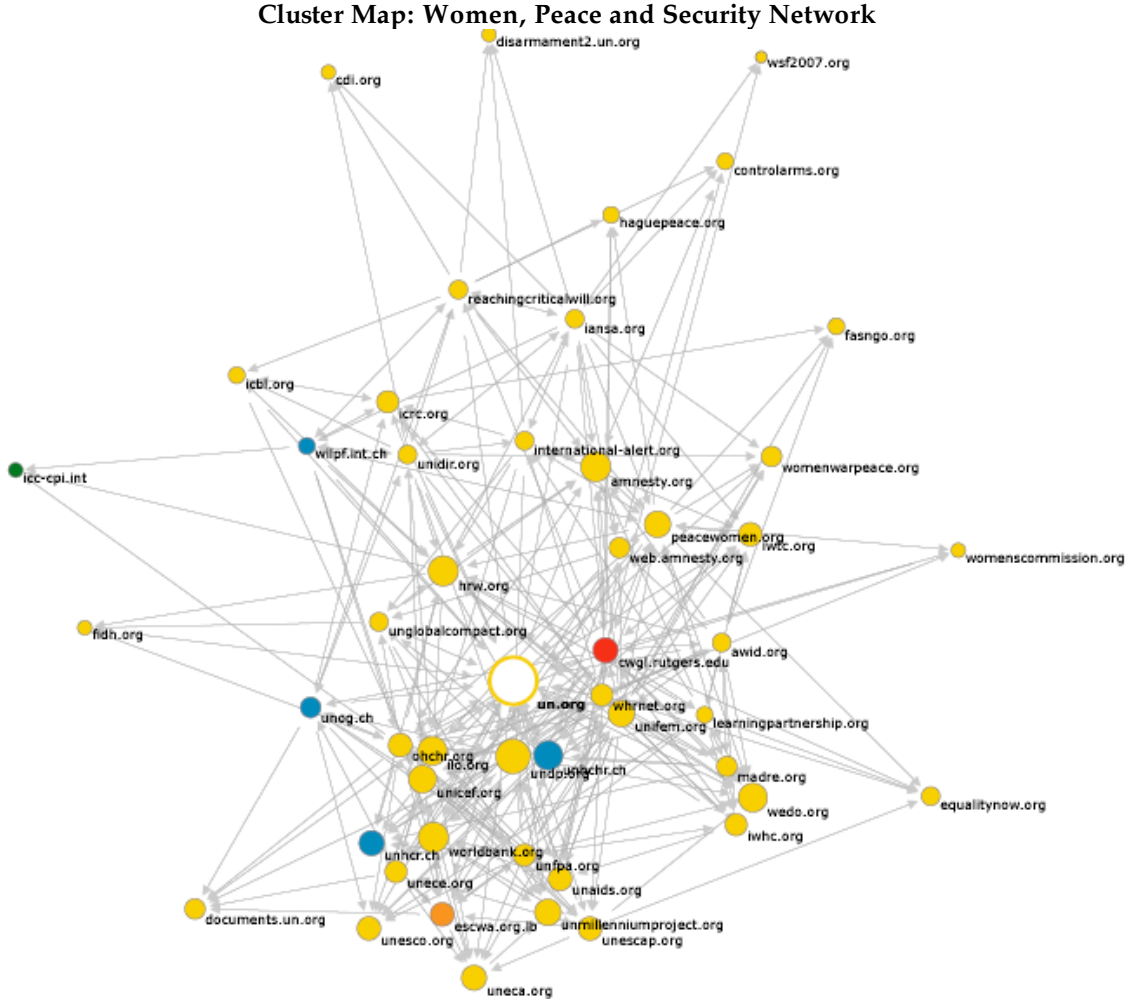
A code list was constructed using a grounded theory analysis of the raw data, and by drawing on the "issues" listed on the organizations appearing among the first ten hits on Google for a search of the terms "Women, Peace and Security."[5] We examined how frequently these "issues" appeared in both the open-ended survey responses about "the most prominent issues" and the mission statement web-pages of a sample of the organizations returned by Issuecrawler.[6] Codes were applied at the document level if wording or phrases approximating the meaning of a code appeared in the web data or in a single respondents' survey answer. For example, references to refugees or IDP issues were coded "Displacement"; references to women's participation in diplomacy to resolve conflicts were coded "Peace Processes" and "Participation" concurrently. Each primary document was coded independently by two graduate student coders; inter-rater reliability was gauged using the F-measure metric.[7] Codes with lower than .6 inter-rater reliability were discarded after two pre-tests. The average inter-rater reliability for the web-data set was .83. One set of these codes was then selected at random to yield a single frequency list indicating the relative salience of specific issues within the Women, Peace and Security online and real-space issue spheres. For a comparison, see Table 2.

[5] See http://www.womenwarpeace.org/index.htm. For an example of web-content, see Figure 2.

[6] To qualify for our initial dataset, an organization had to appear both in the Issuecrawler output and in the survey responses. For a list of the websites analyzed see Appendix 2.

[7] The F-Measure metric rates the overlap between two coders' annotations on a scale between -1 and 1, where 1.00 represents 100% synonymity between two coders' independent annotations. See Van Rijsbergen, 1979.

FIGURE 1.
Cluster Map: Women, Peace and Security Network



Findings

The preliminary finding of this study is that online issue networks provide a more accurate view of their real-space counterparts on some dimensions than on others. Co-link analysis accurately depicts (and perhaps also constructs) activists' understanding of who the key network "hubs" or "gatekeepers" are. By far the organizations most often cited unprompted in open-ended questions, as well as most prominent in ranked responses, are the United Nations Development Fund for Women (UNIFEM) and Women's International League for Peace and Freedom (WILPF). These two organizations, as well as their key subsidiary websites around this issue (UNIFEM's WomenWarPeace.org and WILPF's Peacewomen.org and ReachingCriticalWill.org websites) are also among the top hits in Issuecrawler's in-link density rankings. In other words, in no case did Issuecrawler miss any organizations that survey results would suggest are central to the network.

However, hyperlink analysis does also yield false hub positives: organizations that real-space activists would deny are part of a network may end up in appearing as highly central organizations in a hyperlinked network. For example, survey respondents felt strongly that the World Bank and World Trade Organization are "not very involved" in the network, yet these organizations both appear high on the in-link density list produced by Issuecrawler. [See Appendix 1]. In general, however, Issuecrawler's results map onto survey respondents

FIGURE 2.

Screenshot of UNIFEM Women, War and Peace Web Portal
Homepage and Issue Links

characterizations of the network periphery as well: 78% of low-prominence organizations appearing in the open-ended questions but ranked as "not very involved" by a majority of survey respondents also fail to appear as central to the online network. These findings suggest that co-link analysis provides a helpful indictator of both the most and least prominent organizations in an issue area.

The co-link analysis seems to do a less perfect job of capturing "core" organizations in a network than it does in capturing "hubs" or "peripheral" organizations. We considered organizations to be in the real-space network "core" if between two and five survey respondents identified them unprompted in open-ended questions.[8] Of these fourteen "core" organizations, only three appear in the Issuecrawler results, in comparison to the network "hubs." In other words, there is a gap between the organizations Issuecrawler says constitute the core network and the organizations activists identify as "very/somewhat involved" in the network.

Regarding the issue agenda, web-sphere analysis correlates very well with the description of the "most prominent issues" ranked by survey respondents, with only a few interesting exceptions (see Table 2). Of the issues activists were asked to rank, "Gender-Mainstreaming" tops the list in both the real-space and online networks, followed by HIV-AIDS among survey respondents and "Health" in the coded web data; "Girls" and "Physical Violence" follow closely in frequency in both lists. Moreover, online web content also maps onto activists' understandings of the least prominent issues: Nuclear Weapons, Militarization of Space, and Cluster Munitions were at the bottom of the list in both networks; Landmines, Small Arms and Disarmament also scored low both in code frequency and number of respondents listing them as prominent issues. Interestingly, however, "Environment" appeared more prominently on websites than it did in the survey responses, and "Trafficking" was ranked as more prominent in survey responses than it was on the websites.

Some additional patterns in the data bear mentioning. While the goal of this study was to examine synonymity between advocates' and online representations of network actors, advocates understanding of who constitutes an "actor" mapped unevenly onto the structure of the World Wide Web. Evidence in favor of this position is to be found in the number of respondents who mentioned *webpages* within organizations as actors, rather than the organizations themselves. For example, "Peacewomen" was often listed as an actor in open-ended questions, though this is actually one website run by a separate organization, Women's International League for Peace and Freedom. This suggests that the web sphere does help to construct activists' understanding of the players and information "hubs" within a network.

[8] This compares to "hubs" which often had over 20 responses; and peripheral organizations mentioned only by one respondent.

TABLE 2.

Code Frequency:
Ranked Survey Answers v. Web Analysis

Ranked Survey Answers*

Gender-Mainstreaming	63.9%
HIV-AIDS	63.8%
Trafficking	63.8%
Girls	62.9%
Physical Violence	61.2%
Peace Processes	61.1%
Justice	58.3%
Displacement	51.5%
Health	48.6%
Demobilization/Reint.	44.4%
Reconstruction	38.9%
Reproductive Health	38.8%
Small Arms	25.0%
Landmines	27.0%
Disarmament	22.2%
Nuclear Weapons	22.2%
Environment	11.4%
Cluster Munitions	05.8%
Militarization of Space	05.7%

*Ranked by percent of respondents answering issue is "extremely" or "very" prominent.

Ranked Web Content Frequencies*

Gender-Mainstreaming	12
Health	11
Physical Violence	10
Justice	10
Girls	9
Reconstruction	9
Environment	7
HIV-AIDS	6
Reproductive Health	6
Peace Processes	5
Displacement	5
Trafficking	4
Small Arms	2
Landmines	2
Disarmament	2
Demobilization/Reintegration	1
Nuclear Weapons	1
Cluster Munitions	0
Militarization of Space	0

* Ranked by frequency of codes applied to web content dataset.

However, some respondents did the opposite, listing umbrella actors such as "United Nations" rather than referring to the specific UN agency, in this case either UNIFEM or INSTRAW, actively involved in the network, much less a specific issue web-page, which in the UNIFEM case would be the "WomenWarandPeace" project. In fact, some respondents would refer to both in these cases, making responses non-comparable. Many survey respondents also listed publications, such as the Women Waging Peace Digest, or specific web-*pages* within organizations, rather than either organizations or webpages, as "actors." And some "actors" listed in open-ended questions were actually sub-networks of actors, such at the NGO Working Group on Women, Peace and Security. All this suggests a complicated understanding on the part of advocates' as to what exactly constitutes an institutional "player" in an advocacy network; and the emphasis at places in the survey responses on subnational players, such as the UK Peacewomen chapter rather than Peacewomen broadly, complicates understandings of advocacy networks as primarily transnational.

The data also suggests that actual advocacy networks, like online networks, are scale-free networks: they are dominated by a few major hubs, with a larger number of organizations occupying mid-range but by comparison much more marginal "core" network space, and a large number of interested organizations only peripherally connected to the network. The broad comparability of evidence from the surveys and the web-analysis here stands counter to the view promulgated by earlier literature on advocacy networks that these were essentially distributed networks, with multiple points of access and leverage, in which civil society actors

operated cooperatively and on an equal footing with one another vis-à-vis the sovereign states-system. The evidence here, drawn from a network around women's issues, would lend skepticism also to the view that women's transnational mobilization is different in kind from that of other social movements. Informal conversations with activists within this network suggest to me that fundamental hierarchies exist within the network that impact both the access of Southern women or minority women in the North, but also the advocacy agenda itself in important ways. One activist told me:

> "I don't know too many American women of color who were involved in the 1325 work – I don't get invited to very many of these conferences. The group of frankly white American women who are creating these agendas and running things are excluding many voices… there is too little focus on domestic issues in this movement, people always want to look at what is going on in other societies."

Focus groups with activists could usefully explore some of these broader issues.

Conclusion

This analysis suggests that web sphere analysis is a helpful way of identifying the hubs or "gatekeepers" within specific issue networks, as well as the most and least prominent issues within a network, but may be a blunter tool for capturing the larger networks around these hubs or the dynamic and evolving issue agenda within transnational advocacy space. Students of advocacy networks who aim to operationalize and track changes in network composition may wish to combine web analysis with conventional methodologies for gauging real-space understandings of the network and the issues, in order to arrive at a comprehensive picture of how transnational advocacy networks connect and construct the global agenda.

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APPENDIX 1

Actor Rankings, core and periphery by page, WPS Peacewomen NGO Working Group

1 - un.org - 1582
2 - awid.org - 307
3 - undp.org - 284
4 - ohchr.org - 273
5 - wilpf.int.ch - 262
6 - ilo.org - 251
7 - amnesty.org - 226
8 - whrnet.org - 196
9 - unifem.org - 170
10 - womenscommission.org - 157
11 - peacewomen.org - 120
12 - reachingcriticalwill.org - 85
13 - womenwarpeace.org - 84
14 - wedo.org - 75
15 - documents.un.org - 63
16 - iwtc.org - 59
17 - unhchr.ch - 57
18 - hrw.org - 55
19 - international-alert.org - 45
20 - fasngo.org - 44
21 - haguepeace.org - 42
22 - cwgl.rutgers.edu - 41
23 - unaids.org - 36
24 - iansa.org - 34
25 - unicef.org - 31
26 - worldbank.org - 31
27 - unhcr.ch - 29
28 - uneca.org - 28
29 - unescap.org - 25
30 - controlarms.org - 24
31 - icrc.org - 22
32 - unfpa.org - 22
33 - unmillenniumproject.org - 22
34 - escwa.org.lb - 22
35 - icc-cpi.int - 21
36 - unesco.org - 21
37 - web.amnesty.org - 20
38 - madre.org - 20
39 - unece.org - 19
40 - unog.ch - 17
41 - learningpartnership.org - 16
42 - cdi.org - 15
43 - iwhc.org - 14
44 - forumsocialmundial.org.br - 13
45 - apwld.org - 13
46 - womensnet.org.za - 13
47 - fidh.org - 12
48 - equalitynow.org - 12
49 - unglobalcompact.org - 12
50 - omct.org - 12
51 - femnet.or.ke - 12
52 - ifrc.org - 11
53 - wilpf.org - 11
54 - wto.org - 11
55 - icbl.org - 10
56 - wsf2007.org - 10
57 - unidir.org - 9
58 - isiswomen.org - 9
59 - iccwomen.org - 9
60 - beijingandbeyond.org - 8
61 - womenwagingpeace.net - 8
62 - womenbuildingpeace.org - 8
63 - imow.org - 8
64 - rhrc.org - 7
65 - ieer.org - 7
66 - child-soldiers.org - 7
67 - icftu.org - 7
68 - isis.or.ug - 7
69 - ncrw.org - 7
70 - batshalom.org - 7
71 - worldpolicy.org - 6
72 - 1000peacewomen.org - 6
73 - reformtheun.org - 6
74 - womankind.org.uk - 6
75 - disarmament2.un.org - 3
76 - wunrn.com - 3
77 - generoyambiente.org - 3

APPENDIX 2.
Organizational Websites Analyzed

Women's International League for Peace and Freedom International
Peacewomen
Building Critical Will
UN Development Fund for Women
NGO Working Group on Women, Peace and Security
Women Waging Peace
Women's Human Rights Net
Global Fund For Women
Amnesty International
Women's Environment and Development Organization
International Committee of the Red Cross
Women's Commission for Refugee Women and Children
International Women's Tribune Center
Femmes Africa Solidarite
UN High Commissioner for Refugees
UN Children's Emergency Fund
Human Rights Watch
International Alert
UN Population Fund
UNAIDS
World Bank
Isis International
Madre
Femnet
International Action Network on Small Arms

Linking and the Network Imaginary

Leah A. Lievrouw & Lilly Nguyen

Presented by Lilly Nguyen

In this paper Lievrouw and Nguyen propose a framework of the network imaginary to explore two particular aspects of linking. The network imaginary framework asserts that actors in mediated places must not only be able to recognize links and the relations they signify within their immediate social contexts; they must also be able to visualize the extension or breakdowns of network relations beyond their immediate situations. Subsequently, this paper will explore the nature of links and how they are generated or constituted through explicit and implicit social phenomena. This paper will also explore the generative and degenerative dynamics of linking that continually and reflexively reshape networks and social action. In turn, they will suggest several directions for the study of links and linking within network theory.

LOCATIVE MEDIA

Wirelessness and radical network empiricism

Adrian Mackenzie

Adrian Mackenzie This paper is a kind of 'airsnort' {The Shmoo, 2004 #286}: an attempt to construct an account of the specificity of wireless networks, particularly, wi-fi networks by gathering lots of signals, and then working out the 'encryption key' from them. Some of what I'm saying embraces other technologies such as Bluetooth and cell phone technologies such as GSM and CDMA, but for various reasons Wi-Fi® is the main focus.

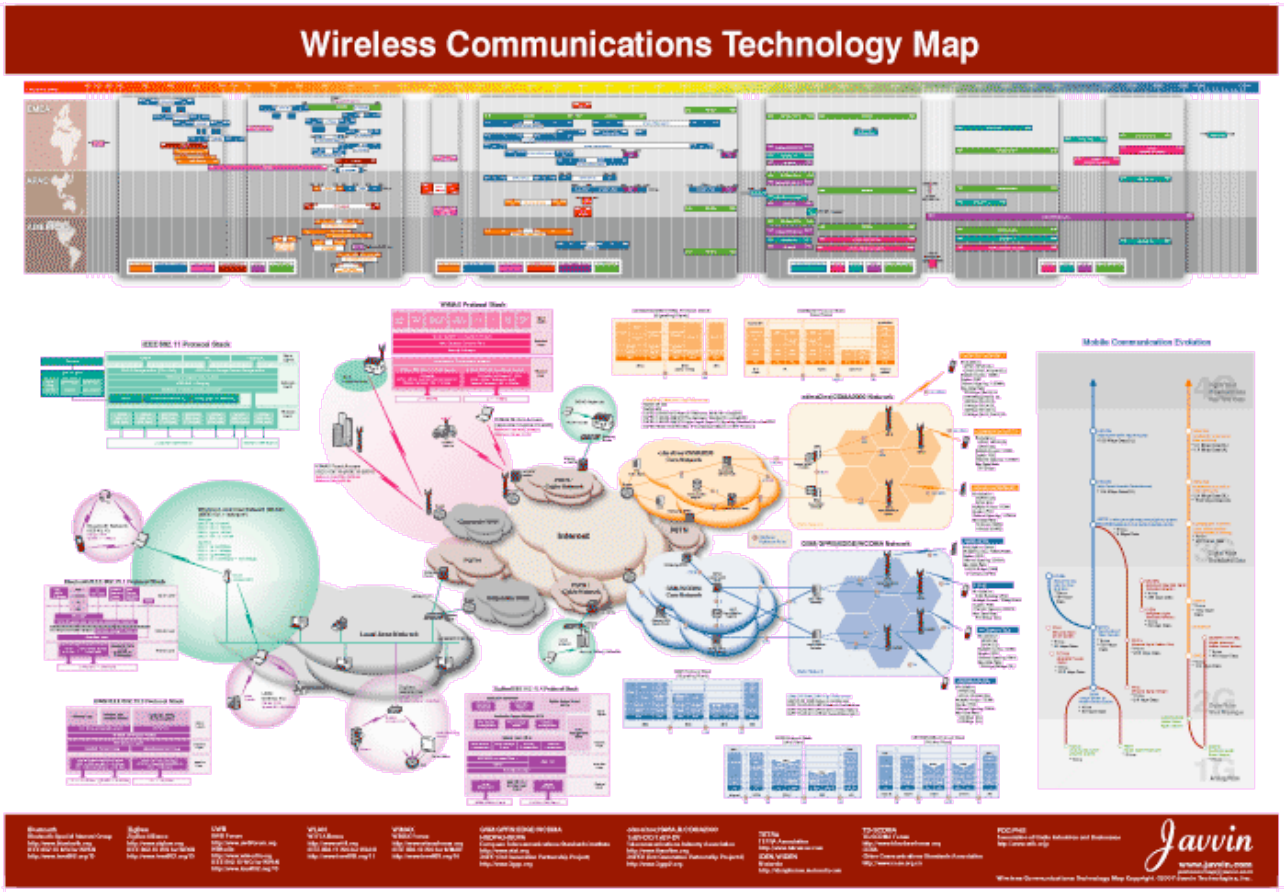
Slupr: http://geektechnique.org/images/1453.jpg

In some ways, wireless networks are very unpromising candidates for network theory. In contrast to the high-profile social software-based networking and organised network debates, they are quite banal, and they are often relatively invisible. They are certainly not the main hotspot of practices or changes associated with new media or technological cultures. However I'm quite interested in the fact that wireless networks, despite being mundane, persistently associate themselves into the centre of media change in very diverse zones of the social. These include the areas of convergence between different infrastructures and places, (telephone, transport, domestic, commercial, etc), the intersections between ICT and development (ICT4D), the sheer proliferation of mobile gadgets, and last but not least, the question of networks and the body, in the case, in the form of altered bodily comportments, and fears around radiation. Across all of these areas, I think wireless networks merit interest because they epitomise very rapid transitions.

Pattern of proliferation: immediately mediated experience

The spatio-temporal proliferation of wireless networks can be understood in terms of a broadly shared experience I am calling 'wirelessness'. The paper is about network dynamics in time and space rather than about networks per se. Perhaps what is most surprising about wireless networks are their proliferating dynamics rather than any specific concrete

effects, implementation or institution. What kind of theoretical constructs would allow us to think that proliferation?



I'm trying to understand a mass of reports, images, projects, products and plans concerning wireless networks using an approach drawn from the American pragmatist philosopher, William James, and especially, his work on radical empiricism {James, 1912 #628}. I'm adding an extra word to James' phrase 'radical empiricism' to get 'radical network empiricism.' The question that this extra word raises in my mind is how to conceive of empiricism under network conditions.

I'm treating those reports, images, technical documents, products descriptions and announcements and wireless-related websites as themselves primary components in an experience of wireless networks. In other words, like much recent cultural studies influenced work, but also cultural political economy, I'm assuming that there is no unmediated experience of wirelessness, only immediately mediated experience. In a methodological sense, this is a highly text-based approach, but its the only one I've got access to at the moment (hence the 'airsnort' metaphor). I can also imagine kinds of ethnographic fieldwork with networks, art or design-based experiments with them. However, apart from what I've seen in passing through dozens of wireless networks in houses, cafes, hotels, airports and city streets, what I've encountered in connecting to or configuring a small wireless network, and what I've heard in talking to people about their wireless networks ('the greatest invention since the laptop' a philosopher said to me), I've not done empirical research into wireless networks. The empiricism that I'm referring to here is not that of social science or science in general. It is 'radical empiricism' to the extent that it works on experience itself, the experience that I'm calling wirelessness.

The lightly structured, apparently contentless account of experience proposed in {James, 1912 #628} is handy in thinking about wireless networks partly because it can be

read as a philosophy of wirelessness. That is, James' account of experience is wave-based. However this waviness is not the main reason to invoke James' radical empiricism. Rather, it helps bring together two different theoretical emphases, both of them important to network and cultural theory over the last two decades. The first of them is broadly speaking, the strand of work represented mainly by Brian Massumi that says that certain aspects of experience are *transcontextual* {Massumi, 2002 #13}. That is, experience or whatever we call awareness overflows the borders and boundaries that mark out the principal lived functions of subjectivity-self, institution, identity and difference. Actually, at the core of Massumi's recent work lies James' notion of radical empiricism. Massumi draws on James to account for streamlike-aspects of experience: 'We become conscious of a situation in its midst, already actively engaged in it. Our awareness is always of an already ongoing participation in an unfolding relation' {Massumi, 2002 #13, 230-1}. What would this mean in relation to networks?

The other strand of this paper comes from science studies work on the science studies approach to facts and things, associated with Isabelle Stengers and Bruno Latour and others. One of the key claims supported by science studies work of the last few decades remains important for network theory - wherever claims are made for something new, for something modern, for any change in what counts for us as real whatsover, it is necessary to look for the infrastructural changes that make that claim plausible, that make it possible to live that claim, that make that claim stick . Of course, this a very general approach that people have worked with in many different ways, mainly in trying to understand how scientific facts stabilise. This has normally involved look at the circuits and connections that run between laboratories, peers, allies, and publics. In a somewhat haphazard way, I'm trying to bolt certain results from recent science studies work onto James' radical empiricism.

Wirelessness is a member of diverse processes

How can we follow those diverse processes? Any radical network empiricism 'worthy of the name' would have to be able to engage at levels from the infrastructural to the ephemera of feeling. In order to indicate the diversity of these zones of wirelessness, I'm looking at a cross-section of the relatively heavily stratified planes of network infrastructures that present themselves today. The guiding fiction that I'musing here comes from James' radical empiricism that says

> experience is a member of diverse processes that can be followed away from it along entirely different lines. {James, 1912 #628, 12}

The flip side of this diversification of experience is that things themselves belong to diverse processes:

> [O]ne and the samematerial object can figure in an indefinitely large number of different processes at once. {James, 1912 #628, 125}

I'm treating wirelessness as a composite experience. Like Bergson, James regards experience as mixed. We comprise mixed experience not pure experience. In terms of James' expanded notion of experience, we would have to ask: what are the diverse processes that wirelessness belongs to?

Some principal processes that can be tracked out from wirelessness : the algorithmic-radiational, the overflow problem, and development streaming. These processes, which I will soon illustrate, may seem arbitrarily chosen from the nebula of wirelessness. However, for me, they represent different tendencies, or differences in kind that need to be separated if the composite experience of wirelessness is to be specified.

Close to the antenna: wirelessness as algorithmic-radiational

I have an unhealthily strong techno-determinist addiction to the details of wireless network infrastructures. I don't think this interest in the physical implementation of wireless infrastructures is purely academic. It is gendered male, since it is still men who regularly most interest and invest themselves in the technicalities of networks. (I have managed to restrain my interest in the technicalities of wirelessness to a text-based level by reading IEEE standards, patents and signal processing textbooks.) One component of wirelessness can be followed away into the algorithmic processes that allow networks of

wireless equipment to form. The so-called 'physical layer' of wireless network offers one place where a divergent line of experience runs.

There are two things of potential interest in looking at the chips and antennae. Firstly, we might say that they help perform the materialist 'infrastructural inversion' recommended by science studies in demystifying any general claims for technologies. That is, chips and antennae, and what happens on them, are political economically important to wirelessness. They are products, they have life-cycles, quite rapid-ones in the case of networks such as Wi-Fi as it moves through different versions a,b, g, now n. We have few accounts that link the intensely global competition associated with spectrum allocation to the specificities of chip production. Secondly, shifts between metaphorical and literal invocations of the term 'network' have constantly beset network theory. The network term has been generalised as almost a key component of recent organisational change, and this has usually been done by saying that wherever there are patterns of relations, they make up a network. I think contemporary understandings of networks would benefit from treating the rapid oscillation between literal and metaphorical invocations of 'the network' as a real aspect of contemporary experience, not as something to be regulated or controlled. Algorithmic and signal processing aspects of the wireless networks provide a useful test case here. Surely there are no literal-figurative instabilities here? Surely these are real, actual networks? If networks metaphorise themselves even at this level, if the invocation of network cannot be regulated even here, then we have no hope of controlling the specificity or performativity of the concept of networks. This would have interesting implications for network theory.

What can I say briefly about the algorithmic and propagative aspects of the wireless networks in relation to the political economy and the unstable concept of networks? They are deeply connected to each other. The architecture of wireless chips used in wi-fi, wi-max, bluetooth, GSM/3G or wireless USB vary very little. This is because the algorithmic techniques they rely are surprisingly aligned. Even between major competing technologies such as GSM 3G and CDMA2000 there are relatively few algorithmic variations. Often the algorithms are nearly the same, only applied at a different frequency or in a slightly different order. So the competition between different forms of wireless network that is happening all around us, and the proliferation of networks at different scales ranging from the bluetooth networks draped around individual bodies through to the planetary scale networks of satellite-based wireless systems, including broadcast systems like DVB, share algorithmic processes to large extent. In fact, some of the same algorithms are widespread in other important domains of new media such as video compression (the Fast Fourier Transform, for instance).

Nothing would give me greater pleasure at this point than to spend several hours with you walking through some models and simulations of the wireless algorithms. They are, needless to say, intricately packed with nuances, tricks, shortcuts, optimisations and variations. The algorithms are designed to allowed information to move around amidst crowded, noisy, constantly interrupted electromagnetic environments, deeply saturated with many forms of interference and obstacle. In order to do that, they have to build conjunctive relations into the bitstream. Technically speaking, wireless networks usually suffer from 'severe channel conditions.' This introduces extraordinary convolutions. What I find resonant about these algorithms is that they are ways of making networks hang together under very imperfect signal propagation conditions. There are two ways they do this.

Firstly, the process known as 'convolutional coding' and Viterbi decoding turn the bitstream into a complicated logistical problem. It would take over an hour to explain how they do this, so in the interests of logistical efficiency in getting through this talk, I can't go into that. The key point is that in convolutional coding the bitstream is turned in a network. Relations in this network are characterised by greater and lesser proximity. Some points in the network are closer than others. In a version of the 'travelling saleman problem' {Cormen, 1990 #269, 969-974}, the coding and decoding process introduces the metaphor of the network into the bitstream itself. In other words, it applies the techniques of optimising the routing of people, goods and messages to the very structure of the bitstream itself. Again, in other words, the bitstream that seems to flow smoothly through the channels of wireless networks, in fact comprises constantly shifting networks of

relations between bits. These relations are temporal. They build summaries of what has come before into the present moment.

Finally, put more broadly, this is an example of the performativity of the notion of network. In the interests of making wireless networks of various kinds, logistical networks have been used as the model or the underlying strategy for propagating signals. So one of the most literal contemporary enactments of a network (the wireless network) depends on a metaphorical model of a network. This metaphorical model of the network, along with the logistical calculations, lies at the heart of the relation of the wireless link-node structure. It is as if networks have been algorithmically made inside networks, resulting in a fractal or mis-en-abyme of networking. This is a very curious technocultural achievement by any standards

A second algorithmic component of wirelessness cannot be ignored because it is what permits antennae to proliferate. This is not the time to discuss it, but wireless 'works' because of the Fast Fourier Transform (FFT). The FFT provides spectral efficiency. This is a key political economic concern, given the artificial scarcity of spectrum, itself mainly a byproduct of vast allocations of radio spectrum to military use. The FFT's role in wirelessness and networks in general is also interesting because it links wireless to digital audiovisual media. It is hard to imagine video and sound today without version of the FFT.

In conjunction with the body: the overflow problem

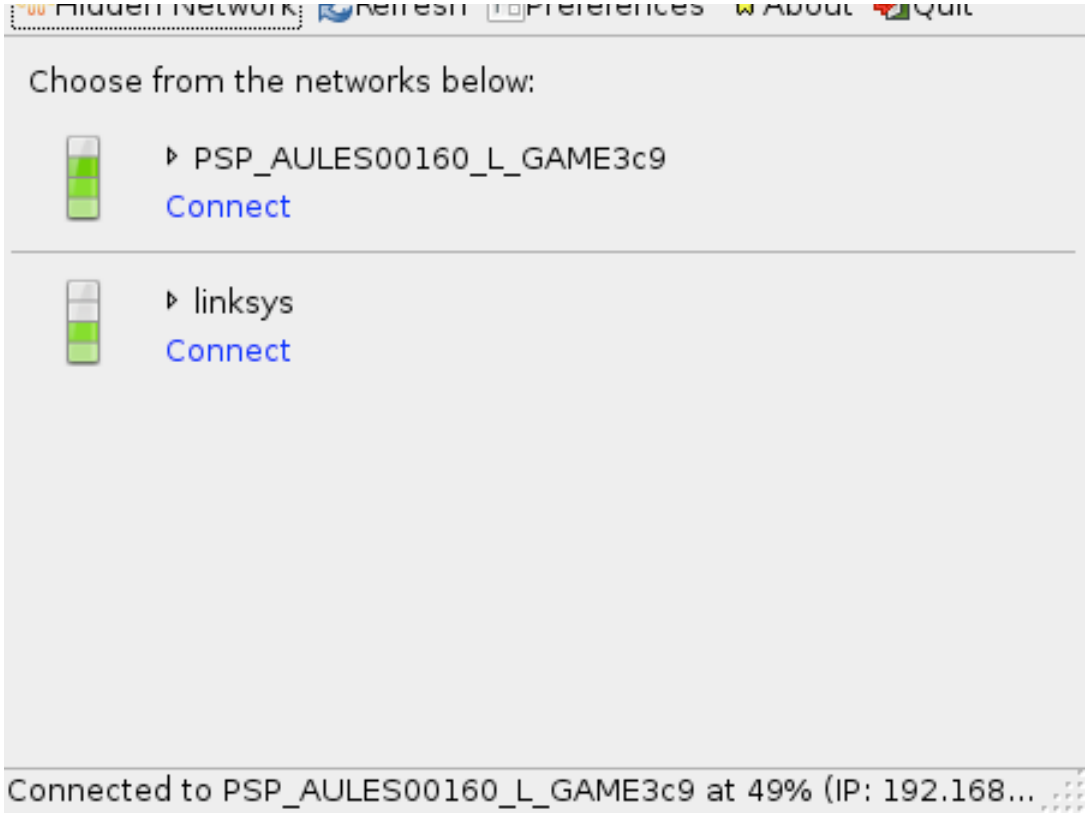
What is the connection between antennae and network theory? Does network theory need to think about antennae? James says:

> To be radical, an empiricism must neither admit into its constructions any element that is not directly experienced, nor exclude from them any element that is directly experienced. For such a philosophy, *the relations that connect experiences must themselves be experienced relations, and any kind of relation experienced must be accounted as 'real' as anything else in the system.* {James, 1912 #628, 42}

It might seem like I've already ignored the basic criteria of radical empiricism by suggesting that the algorithmic processes of wireless networks are a part of the expanded experience of wirelessness. Many people would probably say that they have no interest in, let alone experience of, the algorithmic processes of wireless networks such as Bluetooth or Wi-Fi.

The radio-frequency antennae used in wireless networks distinguish them from other kinds of networks. These small antennae are extraordinarily ubiquitous and diverse today. There are various dynamics associated with antennae. Recently, much attention has been given to the overflow of radio-frequency waves in wireless networks in schools and homes. It echoes long-standing uncertainties around radio-waves and electrical fields associated with electric power networks, and mobile phone masts. The BBC's *Panorama* 'Wi-Fi Revolution' recently describes this overflow as the 'martini-style internet,' 'fast-becoming unavoidable,', 'but there is a catch: radio-frequency radiation, an invisible smog. The question is, is it affecting our health?' [TBA: ref for BBC: 00.55 - 01.07]. This is one form of overflow in wirelessness - the way in which bodies close to networks may be sensitive to and affected by the increasing density of signals. In James' terms, conjunctive relations between bodies and antennae an essential part of wirelessness. While these conjunctive relations (with, and, near, between, behind) are often seen as accidental components of experience, in radical empiricism they are counted as 'real as anything else.'

A second form of overflow associated with antennae and other wireless hardware has also characterised wireless networks for the last five years. Soon after Wi-Fi products began appearing on the market around 2001, many modifications and variations of them appeared. These modifications and variations were particularly visible in antennae. Many newspaper articles, websites and videos showed Pringles-can antennae, kitchen-implement antennae, and re-purposed satellite dishes attached to Wi-Fi access points or Wi-Fi network cards. These antennae extended the range of the consumer-grade network equipment, and permitted it to be taken outside the home and small-business environments it was designed for. The many community wireless network projects that mushroomed between 2002-2005 testify to this. Today, the flourishing municipal wi-fi networks also exemplify it. Not only antennae, but the network cards themselves were quickly fitted into many different hardware platforms. Sometimes this was the work of consumer electronics



goods manufacturers, wanting to connect their products into the home-media-network convergence: cameras, printers, photoframes, televisions, sound systems, music players, games consoles, started appearing with Wi-Fi inside. However, this was often preceded by the art, amateur, hacker and community projects. Today, of course, the leading example might be the mobile phone itself, now increasingly appearing with Wi-Fi inside, alongside other wireless network technologies such as BlueTooth.

A final form of overflow is perhaps most central to wirelessness. In a sense, wireless networks are all about creating networks that spatially overflow. The different basic topologies of wireless networks - star, mesh - as well as the many different levels of access associated with them, and the many different attempts to limit or open up access, attest to this sense of overflow. There have been many events in the last five associated with this overflow. It began with publicity about war-chalking, the short-lived practice of indicating the presence of nearby wireless networks. It continues in the many wireless mapping projects to be found online, ranging from industry-sponsored maps to war-driving or war-flying maps. It destabilises distinctions between public and private. In the last five years, there has much debate, somewhat inconsequential on the whole probably, about the ethics and legality of accessing open wireless networks. High-profile cases have occurred. The conviction of a teenager in Singapore {Chua Hian, 2007 #462}, the theft of 45 million customer records from wireless networks at TkMaxx stores in the USA {Espiner, #538}, and the general trend towards criminalisation of any 'unauthorized access' to wireless networks (for instance, using a wireless network at a coffee-shop without paying {Leyden, 2007 #786}, {Simone, 2006 #283}) suggests that this topological overflow leads to many kinds of uncertainties about what properly constitutes a network when its edges tend to blur. Nor is this always criminalised. Clearly, the fuzziness of hotspots, the ways in which people become attuned to signal strengths as they move around in wireless networks, and the alterations in everyday habits associated with wireless networks (too many to list) form primary components of wirelessness.

These three sense of overflow - into bodies at a cellular or physiological level, over things things in the many variations of Wi-Fi let alone Bluetooth, Zigbee, and across socio-spatial boundaries - are all experienced directly, even if all of them cannot be verified. Many people have an experience of wirelessness, and wireless networks of various kinds. They have an experience of what the algorithms in their many semiconductor implementations do: allow that experience to be expansive, to continually roll outwards, overflowing wired networks in many places and at many different scales. These are strangely composite or mixed experiences. I think it would be useful if this mixing together

of diverse processes was seen not as a messing up the purity of experience, as confusing things that should not be put together, but as core components of network experience.

One lead on this comes from science studies. The notion of overflow was proposed by Michel Callon in the context of his work on markets {Callon, 2002 #313, Callon, 2002 #639}. I am not going into the details of that work. While I think it would be very relevant to bring this science studies-based work to bear on the market-aspects of wireless networks, I want to just lift one key point from it. In the context of a discussion of how technoscience and markets intersect, he asks:

> But if you consider overflows, you don't know who is concerned. Is it an individual? Is it a group of individuals? Is it a hybrid collective, mixing humans and non-humans? Nobody is able to answer this question. So it's a principle of uncertainty about what the collective is made of, or will be made of {Callon, 2002 #313, 288}.

The notion of overflow that Callon mentions here concerns leakages or crossovers between acting as an economic agent amidst markets and acting as some kind of citizen concerned with technology, science and, although he doesn't mention it, information networks. These overflows come about because it is constitutionally impossible to separate the political and the economic dimensions of collective life. Even when neo-liberalism is trying to reduce democracy to markets, overflows mean that someone within markets can be doing something that is irreducible to markets, or that begins to re-configure markets along lines that can longer be understood in terms of the pursuit of individual self-interest.

Callon's notion of overflow was developed with the 'economy of qualities' in mind. In other words, it is meant to help analysis and experimentation with the very kinds of service associated with wireless networks. Flows of information deeply saturate the economy of qualities. But the notion of overflow also runs deep in James' account of radical empiricism. In a sense, overflow lies at the core of his account of experience. For instance, James writes:

> Our experience, *inter alia,* is of variations of rate and of direction, and lives in these transitions more than in the journey's end. The experiences of tendency are sufficient to act upon {James, 1912 #628, 69}.

This sounds incredibly general, and hard to disagree with in some ways. Experience includes 'variations of rate and direction'? But James is saying more than that. He is saying we inhabit 'transitions' more than ends.

Development, streaming and the conceptual experience of wirelessness

Transitions might be a privileged site radical network empiricism. They seem important to appear so prominently, and in so many forms in wirelessness. One way of understanding them comes from what James calls 'conceptual experiences':

> As a matter of fact, and in a general way, the paths that run through conceptual experiences, that is, through 'thoughts' or 'ideas' that 'know' the things in which they terminate, are highly advantageous paths to follow. Not only do they yield inconceivably rapid transitions; but, owing to the 'universal' character which they frequently possess, and to their capacity for association with each other in great systems, they outstrip the tardy consecutions of the things in themselves, and sweep us on towards our ultimate termini in a far more labor-saving way than following of trains of sensible perception ever could {James, 1912 #628, 64}.

There is an aspect of wirelessness, and networks more generally, that is 'conceptual.' James understand 'conceptual' in a quite specific sense, as a path-making operation that diverts the flow of experience. If we think about the difference between a wired network and a wireless network, the difference could be expressed directly in these terms. A wireless network is more conceptual because one no longer need follow the 'tardy consecutions' of cables. A concept is a thought that knows where it terminates, whereas what we call things actually have less fixed termini.

There any many aspects to wirelessness as conceptual experience. I want to focus on just one: how ideas or concepts of ICTs for *development* lie at the heart of wirelessness. From its earliest online visibility in the late 1990s to date, wirelessness, and Wi-Fi networks in particular, have been imagined, discussed, represented, and manipulated in terms of their potential to associate people with information networks. There are dozens, perhaps hundreds of examples of wireless development projects, with a wide range of actors involved. These range from Wi-Fi equipped motorbikes in Cambodia to the $100 Laptop

project with it's adhoc wireless connectivity, from GeekCorps to Cisco, from the UN to ITC. There is much to be analysed in relation to this development-related facet of wirelessness. I am not in a position to analyse the politics of ICT4D or the nature of strategic investments made by transnational corporations such as Intel, Cisco, Google and Motoral in wireless networks in 'bottom of the pyramid' places such as Laos, Nepal, Mali, Sri Lanka, Timbuktu or Nigeria. I have not been to these places, or spoken to people who work on these projects.

I want to focus on a rather elementary aspect: the way in which the idea of a wireless network changing another place, a place we have never been to, serves to energise, indeed animate, the experience of wirelessness. This, then, is an instantiation of James general argument that experience is always relational, that some experiences are relational by being conceptual. That is, as Massumi puts it, '[o]ur awareness is always of an already ongoing participation in an unfolding relation' {Massumi, 2002 #13, 230-1}. James' radical empiricism has to provide some account of the value of ideas. His account contrasts the 'tardy consecutions of the things in themselves' with the 'highly advantageous paths to follow' of conceptual experiences. In principle, 'conceptual experiences' are not radically different from things. 'To begin with, *are* thought and things as heterogeneous as commonly said?' (28) James asks. While there is a difference in rapidity, thoughts and ideas, knowing in general, are '*in the concrete are made of the same stuff as things are*' (37) he answers. What would this mean in relation to wirelessness?

In some ways, if thinking and things are 'in the concrete' the same stuff, then any radical network empiricism would have to treat ideas of wirelessness and the artefacts of wireless as the same thing. This sounds, then, a bit like the re-iteration of the principle of symmetry between humans and non-humans that science studies has argued for. However, I think there is something more nuanced to be taken from this point, especially if we bear in mind James' insistence on conceptual experiences as 'inconceivably rapid' compared to the 'tardy consecutions of things'.

An important aspect of wirelessness focuses on 'inconceivably rapid transitions.' There is an idea that wireless networks will allow people to rapidly participate in the changes associated with information networks in the last two decades. Through wireless networks people who previously felt somewhat isolated or insufficiently networked will be able to fully insert themselves into networks. While this idea does not find its 'termini' solely with people who live in Africa or Southeast, Asia, those people certainly represent one of the most powerful cases of an 'inconceivably rapid transition.' In other words, the 'inconceivably rapid transitions' can happen through an address to individuals living in urban centres in North America, Europe or East Asia, but it can also happen in turning to development in Africa, South Asia, and South America.

I think I am critical of this aspect of wireless. It has appeared in many guises since 2000. First of all, many wireless development projects focus on rural and remote settings. These appear to most amenable to rapid transition to connection to global networks. One lead here comes from the work of AbdouMaliq Simone {Simone, 2006 #281}. Simone writes of the assumptions about predictability, futurity, homogeneity and consistency that would have to hold in place before an information network can consistently bind people. These assumptions are not only taken for granted in much wireless ICT4D, they are actively performed through the extension of wireless networks.

For instance, the opening lines of *Wireless Networks for Development* say:

> Wireless infrastructure can be built for very little cost compared to traditional wired alternatives. But building wireless networks is only partly about saving money. By providing people in your local community with cheaper and easier access to information, they will directly benefit from what the Internet has to offer. The time and effort saved by having access to the global network of information translates into wealth on a local scale, as more work can be done in less time and with less effort. {Flickenger, 2006 #282, 1}

This is a fairly innocent statement, and relatively well-intentioned. However, it takes so much for granted about wirelessness that it is hard to know where to begin. It imagines an absence of obstacles, economic and physical, it promises that time and energy will be saved. It envisages information network infrastructures as pre-condition of access to global economic life - 'what the Internet has to offer'. Although this is not explicitly focused on rural settings, many of the ICT4D projects do. Examples include GeekCorps Bottlenet project, http://www.geekcorps.org/2006/11/how-to-make-a-bottlenet-antenn/; Green WiFi's solar

powered 'boxes' http://www.green-wifi.org/; Asia-Pacific Development Information Programme's village networking projects, http://www.apdip.net/; or Nethope's Wi-Fi disaster relief kits, http://www.nethope.org/index.html.

At the core of all these projects are notions of networks as ways of transiting from localised rural economies to globally connected economic activity. 'More work can be done in less time and with less effort.' However, it seems that this idea of rapid transition from the past to present runs against the grain of other development. Firstly, economic activity in Africa is very much urban-based. Where 'rural' work is done, it is often a response to the unpredictability of urban life. As AbdouMaliq Simon writes:

> Disillusionment with urban modernity also reinforces a retreat into what might be viewed as highly "rural" patterns of subsistence: the return to primary agricultural production, the pooling of available assets, and the reorganization of households into interweavings of extended kin and associates all involved in discrete yet complementary economic activities that provide a hedge against seasonal and sectoral declines in any one specific kind of activity. {Simone, 2006 #281, 153}

It could be argued that wirelessness has an implicit awareness that the paths to networked life are complicated.

In terms of *Wireless Networks for Development*, say such a network was built somewhere in a less developed country, a place where other communication network infrastructures are limited, fragile or expensive to access. What experience of wirelessness would result? Something invisible:

> The neophyte looking at a wireless network may see the antennas and wires and computers, but it can take a while for them to appreciate the point of the "invisible" network. In rural areas, it can often take a huge leap of understanding before locals will appreciate an invisible network that is simply dropped into their village. Therefore, a phased approach is needed to ease people into supporting technology systems. The best method is involvement. Once the participants are chosen and committed to the project, involve them as much as possible. Let them "drive". Give them the cable crimper or keyboard and show them how to do the work. Even if you do not have time to explain every detail and even if it will take longer, they need to be involved physically and see not only what has been done, but how much work was done. {Flickenger, 2006 #282, 197}

The 'invisible network' will need to become visible if it is to survive. Hence the manual describes how people have to become involved in making the network work. They need to see 'not only what has been done, but how much work was done.' This too is a form of empiricism. It is a form of radical empiricism to the extent that enrols people in the work of making relations just as real as things. [TBA – could write backwards out of this to say what radical network empiricism means in previous sections – for algorithms, for making].

Say some people get 'involved physically', they get involved 'as much as possible,' and they make the 'huge leap of understanding' or the inconceivably rapid transition of a conceptual experience of an invisible network. What happens then. Here is one possibility:

> Télécoms béninois : anarchie totale, mesures draconiennes annoncées
>
> Une étude commanditée par l'Etat du Bénin dans le secteur des télécommunications dans le pays a fait "l'amer constat" de la grande anarchie qui y prévaut, incitant le gouvernement à annoncer une série de mesures drastiques, a appris Ouestafnews de source officielle.
>
> L'étude révèle qu'un total de "47 opérateurs sur 50 visités", exercent "tout ou partie de leurs activités en violation des textes" privant ainsi l'Etat béninois "d'importantes recettes" et provoquant "une forte hémorragie financière au préjudice de l'Etat béninois", affirme un communiqué du Conseil des ministres parvenu à Ouestafnews.
>
> ...
>
> L'Etat, selon le communiqué va également suspendre tous les "arrêtés portant autorisation de prestation de services de télécommunications telles que la Voix sur IP, la boucle locale radio, le wifi, le wimax, l'adsl, les cartes prépayées à l'exception des fournisseurs d'accès internet et des opérateurs de cybercafé qui exploitent légalement leurs activités" Les conditions de la récente "mutation des Telecel vers Moov" (opérateurs privés) seront également examinées, promet le gouvernement béninois qui annonce plusieurs autres mesures dont notamment le démantèlement "sans délai" d'installations techniques opérées sans autorisation, le relèvement des prix de licences accordées de "manière fantaisiste"{Ouestaf, 2007 #284}.

Where does this leave us? The government of Benin is not alone in reacting harshly towards the anarchic state that has emerged as a result of people becoming involved in supporting wireless networks. There are other examples in Africa and elsewhere. The inconceivably rapid transition of wirelessness can be too rapid for some purposes; for instance, in relation

to the fiscal stability of developing countries. Rather than promoting participation in legitimate economies, they afford something different. As Simone writes:

> Instead of the rapidly expanding increase in the volume of cell phone and Internet use being put to work as instruments to tracking transactions with greater scope, rapidity, and accountability, these tools are being engaged as means to intensify dissimulation. {Simone, 2006 #281, 151}

However, these two examples perhaps represent extremes. What about the middle ground, all the cases where wirelessness is associated with changes in connectivity, but without anarchy? Even here, I think things are a little more complicated that represented in *Wireless Networks for Development*. As James says 'experience is a member of diverse processes that can be followed away from it along entirely different lines' {James, 1912 #628, 12}.

What I find striking about developmental aspect wirelessness is the mixture of pragmatic, empirical-grounded impulse towards making networks, and the conceptual transitions it invokes.

TBC - not so much interested in how wifi actually works in Africa, etc, but in how the idea of these projects feeds into wirelessness, and affirms its universality by saying, look, it can even work here.

Conclusion

The term 'wirelessness' is not new. First mentioned in the mid 1990s), there has always been something faintly old-fashioned about the conjunction of 'wireless' and 'networks.' A slight linguistic tension, at least in English, connects contemporary information networks back to wireless telegraphy, and wireless telephony, that should have been long behind. (For history of 'wireless,' see {Aitken, 1985 #270; Aitken, 1985 #271}.) However, the familiarity of the term covers a complicated set of shifts in the propagation of information required in order for wireless networks to emerge.

One could say that the primary characteristic of wirelessness, and hence any radical network empiricism that comes out of it, is expectation of transition. James writes,

> While we live in such conjunctions our state is one of *transition* in the most literal sense. We are expectant of a 'more' to come, and before the more *has* come, the transition, nevertheless, is directed *towards* it {James, 1912 #628, 237}

Is there any conclusion of this paper or only more to come? I've talked about radical network empiricism in order to make sense of the dynamism of wireless networks. This is not a complete network theory, by any means. It is not a panoramic view of networking today. I wanted instead to say something about the kind of collective energies that animates wireless networks. What comes of putting together the antennae-focused algorithmic flows, the overflows of market-citizen, and the inconceivably rapid transitions associated with development? Wirelessness does not belong any individual subject. It includes things, feelings, and images. It does not form a proper object of analysis, at least in a normal sense.

This is where James' radical empiricism comes in. 'Relations between experiences' must be counted as just as real as the things experienced. This seems eminently well-suited to thinking about networks. The key support to analysis that James' radical empiricism offers concerns how to give primacy to relations without presuming too much about what comes into relation, without saying too much about who or what experiences it. If we say that experience is a member of diverse processes, then immediately it suggests that our experience is not easily reducible to us, to the forms of agency and identity we can think. Instead, we have to think of that experience as a situation, as an ongoing temporal-spatial process, that overflows, that streams, that 'falls forward' {James, 1912 #628, 69}.

The Sedimentation of the Passage: Conceptualizing the Locality Today

Claire Roberge

Claire Roberge specializes in the cultural critique of transnational studies. She links local participative action (how to communicate) and the functioning of technologies in juxtaposition of spaces and times. Her research pays particular attention to transnational networked materialities engaged in circulation and the repercussions of mediations and mediatisations in the locality. The title of her thesis: L'espace transnational et la localité: le réseautage et la sédimentation du passage renders a strong theorization about what can be read (sediments) as chosen circulated materialities. Observing a transnational network between six different localities (Costa-Rica, Chili, Brazil, Mauritius, Senegal and Canada), she developed a theorization taking the network beyond the traditional setting to include six passages to the transnational space. This presentation will discuss this network; precisely the theorization that came out of my observations. The analysis answers, partly, Sassens's question : "What are we aiming at ?".

Exchange - Drifting Between

Nancy Nisbet

"It is not on any map; true places never are." Herman Melville, Moby-Dick

I often think of water when I think of drifting. Drifting desperately at sea on a raft, or drifting down a river in an inner tube on a hot, lazy summer afternoon… Then I think of drifters and their drifting. Drifting as an aimless wandering or drifting as a conscious choice to avoid conforming to any particular cultural clique… In any case, drifting implies a movement, a slow, usually unpredictable shift, a transition, a change – an exchange. Drifting defies borders, it doesn't follow maps, it doesn't stop – only pauses, its pace and direction determined by flows rather than by clocks, compasses, or political rules.

The project of Exchange is a performance of trade and relationship that drifts between communities. Out of the back of a 40 ft shipping container the entirety of my personal belongings are freely traded – traded without negotiation – to people encountered on the four month voyage around Canada and the United States. Exchange flows among and between the politics of international trade and economics, the hysteria concerning security and surveillance, and notions of contemporary identity. Exchange wedges apart the certainty of black and white and frolics in the expanding clouds of gray. Drifts emerge. Like banks of snow or dunes of sand they rise up out of the flow and confront drifters. Drifts are never static. Their pauses in eddies of the flow create unfolding passages that curve through space and time. The path that seems solid and static today has been completely erased by the flow, and another path, just as solid and just as static, appears as if it were always there. Such are political trends; drifts of thought, banks of absolute necessity; the flows never stop, the currents always change, and new agendas coalesce.

a long delay in writing – things got hectic

I went to Tijuana, got stopped briefly at the Mexican border, I was asked to open the trunk

I received a ceramic football piggy bank, much loved dancing shoes, and a glittery antler crown from a dance production in Paris

When I was growing up my family took many road trips. My parents often elected to drive at night so they could have some peace and quiet while my brother and I slept in the back seat. This was in that almost unthinkable time before people wore seatbelts – I curled up in my nest of quilts on the floor and my brother stretched out on the seat. I remember waking up from time to time, dreams still fogging my mind, and looking out around me at the moon blinking through the forest across the dark sky. I'd sit up and grab on to the elastic straps of my dad's seat cushion and pretend I was steering – driving the car into the ever unfolding darkness, never sure what lay beyond the reach of the lights.

I guess these early road trips made an impression on me. I've been traveling pretty much all my life. You might even say that it is the stationary time that punctuates my travels. Toward the end of August 2003 I was driving on a small highway back from a family reunion, a full day's drive from home. The late afternoon sun was barely hidden behind the sun visor as I sat stretched up tall, the body prints of bugs were mapped out on the windshield and big transport trucks crawled up the hills with hazard lights blinking the passage of time – my mind drifted under the hum of the engine. "That's it!" I thought. I'd had a breakthrough. For the last several years I had known that there was a significant project lurking just beneath the surface of road trip. I was stumped as to exactly what it looked like, how its relevance would become apparent, how its meaning would develop and emerge. The details still were not at all clear to me, but the cornerstone finally drifted into full view – it was a semi-truck.

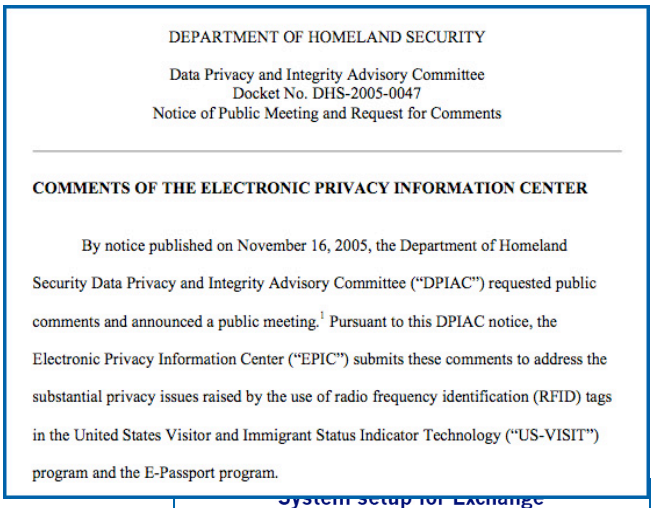
trades included home made apricot jam, home made honey, locally roasted coffee, drawings, a New Mexico Burning Man ball cap, a lifetime of favorite recipes and a clay skull as a reminder of the cycle of life
there was a book that inspired a boy to read, and a bag from India marking a street riot and the brandishing a large sword
two dads traded a wooden beach pelican (named pelican) - set free to have adventures, a neighbor devised a remote controlled car that was intended to be dressed up as an opossum to talk to an old friend who liked to sit out on his porch
I was only reprimanded for taking pictures, not for leaving the camera

As I drove along the endless highway I thought about trucks – what did they haul, where were they going… The bottom line was trade, globalization of production, and multinational corporate profit. The approaching ten-year anniversary of the North American Free Trade Agreement flashed in my mind. I considered other international trade/economic agreements such as the FTAA (Free Trade Area of the Americas) and the economic unification of the European Union. The driving force behind them all is undeniably trade and profit. My research into radio frequency technologies (RFID) flashed in my mind as I drove into the setting sun. I was familiar with RFID history and understood

that the rapid rise in research and development of these technologies was a result of the economic carrot dangling before eager entrepreneurs. Among the multitude of cultural and political shifts triggered by the events of 9/11, the effects of the ripening of the market of surveillance and security technologies are undeniable. Governments and military officials insist that the newly developed and widely implemented security systems are making us all safer. They insist that surveillance has improved, that untold numbers of terrorist plots have been foiled. They energetically reassure us that invasions of privacy, the tapping of communications, the finger printing and photographing of every foreigner entering a country is for the good of all law-abiding citizens – after all, "if you have nothing to hide you have nothing to fear"...

RFID, a benign looking technology, is commonly used for toll roads, fuel stations, parking lots, security access cards, and are being used in some passports and driving licenses. The GAP and Old Navy routinely use RFID to tag jeans and other higher priced items. The only thing people see is a cloth tag that reads
"**REMOVE BEFORE WASHING OR WEARING**".

RFID technology had me fired up from the first time I had heard about it at a dinner party back in 1997. I remember thinking "what if these chips were implanted into people?" Elaine Ramesh of the Franklin Pierce Law Center describes, in her 1997 paper *Time Enough? Consequences of Human Microchip Implantation*, the numerous threats to privacy, civil liberties and other legal rights. Whether or not microchips become routinely implanted in humans, it is prudent to consider the possible implications of the frenzied development of this technology. Preliminary use of RFID in retail markets has many advocates concerned about infringements of personal privacy and they urge legislative protection.



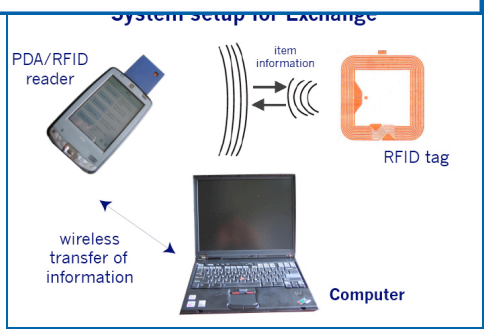
DEPARTMENT OF HOMELAND SECURITY

Data Privacy and Integrity Advisory Committee
Docket No. DHS-2005-0047
Notice of Public Meeting and Request for Comments

COMMENTS OF THE ELECTRONIC PRIVACY INFORMATION CENTER

By notice published on November 16, 2005, the Department of Homeland Security Data Privacy and Integrity Advisory Committee ("DPIAC") requested public comments and announced a public meeting.[1] Pursuant to this DPIAC notice, the Electronic Privacy Information Center ("EPIC") submits these comments to address the substantial privacy issues raised by the use of radio frequency identification (RFID) tags in the United States Visitor and Immigrant Status Indicator Technology ("US-VISIT") program and the E-Passport program.

RFID is a wireless positive identification system that consists of a microchip tag, an antenna, and a reader. It relies on electromagnetic fields that power the invisible transfer information from the tag to the reader – transfer of the information of the purchase of your new jeans to the store's computer. Exchange uses RFID to tag all my personal belongings and link them with the recorded stories of people's incoming trades to the project. The tags are visible and often provoke questions from traders. "What is this?" "Will you be able to track me?" "What are you using the information for?"



the 1973 world year book was a pleasant underestimation of my birth year, Lucy's (5.5 yrs old) ceramic turtle made at summer camp drifted into the voyage, a ring from Vietnam and a necklace signifying a day in Hong Kong … Feb 9th

a USB memory stick with 2 files remaining, a miniDV tape with documents of a Cornell bridge prior to its demolishment

last night I slept in the truck as usual, and had the 2 fans going and the cooler plugged in… it was the first time I drained the battery. I woke at 6:30 this morning - melting in the heat of the now still air. when the fog of sleep lifted my heart jumped and I wondered if the truck would still start

In these days of the revitalization of the space program, nuclear missile tests (threats?), suspected terrorist arrests, increased security, border patrols, profit at all costs, where are the people? Where are we? When do we take a stand and demand that our global, community and individual humanity be acknowledged and respected? It isn't for sale, for profit, or for trade. Rather than fortify our homes and neighborhoods and countries, perhaps it is time to reach out, to risk, to share our vulnerability that is our humanity

bearing 342 degrees (into the fog….). driving the 400 and something foot ship takes a little practice as I so clearly demonstrated in my zig-zaggy path through the Bay of Fundy. I was soon replaced by auto-pilot

a city of crazy roads

On a warm sunny Friday afternoon in early July, I pull the 60 feet of semi-truck and trailer in front of the Johnson Museum at Cornell University. The event tent gets set up, the shipping container is unloaded, and the trading begins. People have brought old hockey skates, artwork, clothes, books, coins from far away places, and home baked chocolate brownies to trade with me. Within a few minutes a line begins to form at the trading 'check-out'. Two women, soon to be off on distant travels of their own claim a night table on the bottom shelf of which sits a manual typewriter. They intend for this to be an "as is" sculpture – the top of the table never to become the graveyard of home detritus that usually is drawn to cover all available surfaces. I pick up my PDA (the RFID reader) and scan the outgoing item and then I scan the small box that is being traded to me. I push record and ask René to tell me her story.

Places, people and things become entangled and newly connected in the amoebically morphing performance. My initial collection of belongings is dispersed and my continuously amended collection shifts to accommodate another's things – my new things. There is a multiplication of identity through the division of my belongings. Our identity/ies are not stable but fluid, not single but multiple, they are located between.

Creating situations and experiences that are consciously located between belonging and unbelonging is a central part of this proposed Exchange project.

Aside from the day to day travel stories, we are all being stretched on this journey - it is as emotional as it is physical. Jumping into the insecurities of nomadic life is most definitely a challenge. At this point I feel prett lucky to have any idea of what the next couple of days have in store for us (no more year long planning or delusions of control)

I woke, rather suddenly, to the ring of my cell phone and heard Linda ask if she woke me…"umm, not really"…"Yes I did, I knew it, that's why I called extra early. I'm going to put you on hold now….don't fall back asleep"… "I won't"….

"environments and systems can interact and respond to their occupants". It is interesting to think about this project in terms of responsive architecture. Whose response? Which architecture? Which occupants? My newly nomadic life presents continuously changing architectures - those of the truck, service shops and truck stops, highways and rest stops, restaurants and internet cafes to name a few. Communities of people in varying tensions of connection, shifting patterns of thought, and dissolving expectations are poignant reminders of the ephemeral structures I wander through

my embarrassing junior high school photos and my photo album from 1988 trip to Africa

Battery power is running low and we still have lists to prepare

the weird thing is how quickly VISA identified that something was up with the 1st card. I used it to buy gas this afternoon (presumably where I parted company with it). It was then used to buy gas at a different station and then taken to Walmart for shopping where the system denied the card. At this point I was called by Visa - all of this took less than 2 hours and only 1 transaction to raise the flag. On the one hand it is very hard to be concerned with this as it has saved me more grief and false charges, but on the other, look how well my spending patterns have been tracked. One extra fueling and the card was flagged and by the next transaction, the card was blocked and I was phoned. Alas, mixed blessings like so much in life

By 1:30 we were pushing the crates along the roads and sidewalks. Navigating around pedestrians (for the most part) and aiming to avoid ruts and ridges (impossible) we finally made it UP to the impressive icon of Canadian power (such as it is). Apologies to those, like René, who showed up at 1:30 and didn't find us – thanks for coming out (see explorer photos). It took far longer to push those crates up the hill than I expected! Somewhere between the other protestors and the front doors we parked our crates and melted on the pavement like chocolate

the saga continues - brakes hold me up in the barrio

Toothing and Bluetoothing; network–fantasy-reality

Sophia Drakopoulou

INTRO
This paper investigates the existence of a virtual space of data share and exchange which has the potential to be used as an environment for individual broadcast. This research paper observes how users appropriate this space and presents two recent phenomena that have appear in the media: the worldwide hoax of 'Toothing' and the London phenomenon of 'Happy Slapping'. 'Happy Slapping' has been inflamed by the media. This violent juvenile act involves unaware people being smacked whilst filmed by a mobile phone camera. The video is then widely distributed amongst the teens. The 'toothing' phenomenon was reported the media. The Guardian, Reuters and Wired magazine published articles last year about a new British trend called 'Toothing'. This involved mobile phone users enabling their Bluetooth devices on the London Underground, to find strangers for casual sex encounters, on a station's lavatories. A web forum was set up where 'Toothers' shared their experiences. This turned out to be a hoax. This paper examines the two phenomena which were reported in the media. Why do the Media always fantasise about new technologies with sex and violence? In 2006 it has been reported that 'BlueToothing' does exist as a way to get to know people and it's popular in London's and Milan's gay scenes and in Dubai's gender-segregated society.

The analysis in this paper explores the two London phenomena as a manifestation of the use of this space of data share and exchange by its users. In news and media these two phenomena were reported as a kind of moral panic. Information regarding those two trends, phenomena were sourced by news agencies and were constantly circulated, quoted and re-quoted in several news forums and weblogs. It can be argued that the fake Toothing forum and the media reports on 'Toothing have sprung out a real craze in Milan and probably in London. In Saudi Arabia, 'Bluetoothing' is breaking social taboos and it's enabling young people of the different sex to communicate with each other in public, something that is not allowed within their society, men and woman sit on separated rooms in cafes and restaurants. The Happy Slapping media created hype and the residual moral panic that followed, have sparkled a new trend online called 'Happy Slap'. You.tube is a web based platform which allows its users to uploads shirt video clips. you.tube and google.video are large banks which hold short video clips. In you.tube and goodle.video a new video trend called the hapy slap video has emerged as popular. Teens create there own staged happy slap videos and upload them online, onto websites dedicated to this function.

This paper argues that the existence of a camera in a violent incident prompts for the recording and hence the documenting of the event. Due to its inherited properties, the camera is seen as a tool that provides evidence of 'what has been' in a particular time and place, and in the case of Happy Slapping to record evidence as proof of deviance and as evidence of breaking social order. The Toothing hoax created and circulated by media outlets and news organisations has also inspired a new trend, a fantasy of 'what might have been'. Londoners create sexually explicit nicknames with their Bluetooth enabled devices, in the hope to use this technology and break social taboos.

Happy Slapping

The David Morley case and Triston case.
In December 2005 David Morley was brutally attacked by a gang of teenagers in London's Southbank. Inside an underway pedestrian passage, three teens approached D. Morley

saying: "We are filming a documentary about Happy Slapping". David Morley was attached and killed by severe beating. The teenagers, two boys and one girl, were convicted for manslaughter, with 6 to 12 year sentences between them1. CCTV footage at the crime scene showed the girl filming the event, the footage or pictures were never recovered by the police2. Wikipedia hosts a full page on the David Morley case and declares D. Morley as "fatal victim of happy slapping"3. Stanley Cohen has done an extensive study on the mods and rockers movement in Brighton and as to the nature and cause of media created moral panic, especially concerning juvenile deviancy. "A crucial dimension for understanding the reaction to deviance both by the public as a whole and by agents of social control, is the nature of the information that is received about the behaviour in question"4

Another fatal incident of teen violence, which Police and the media labelled as 'Happy Slapping related', is the killing of Triston (surname unknown) 18 years old, at Christmas 2005. Triston died in hospital in January 2005. He was attacked in the street by another 18 year old boy. His mother claims that she has seen footage of her son lying on the ground, bleeding, the police have not yet found such evidence.5 It's alleged that the teenager who filmed the incident was just an observer, or a passer by. The police did recover some 'Happy Slapping' videos, which were found on a person's phone, who is also related to the case. The police have released these videos and have made an appeal for people to come forward with any information. Those violent Happy Slapping videos can be viewed on the BBC news website, in a news report. These videos found on the BBC news website and released by the police, in their majority, are clearly staged. the only one video that depicts violent behaviour is the one in which a woman is being pushed off her bike.

What prompts the delinquent youths to record their violent act?
Derrida argues that photography records "something that was there once"6. Stiegler and Derrida in their book "Echographies of television" discuss video recordings which have been previously televised and are used as evidence in court cases and in particular the relationship between evidence and testimony; as Stiegler puts it: evidence made by 'teletechnologies'7. Derrida sees the broadcasted video recording of an event as "a live image of the event"8 He argues that the person who made the piece of recording, the eye witness needs to testify for the authenticity of the recording in court and has to take an oath to claim that it was he who held the camera.9 Stiegler argues that "the audiovisual document should be recognized as a historical source, as an archive"10. The CCTV footage recovered from the Morley attack showed the girl holding a mobile phone and filming the two others beating Mr Morley. The girl's mobile phone camera was documenting the act, recording 'what has been'. In both violent cases mentioned above, the recording camera of the mobile phone acts as evidence and proof of a violent event that took place. This paper argues that the existence of a camera prompts for the recording and documenting of the event, hence creating a 'live' testimony of what took place. It is as if the girl in the Morley case, consciously filmed the incident to provide proof, to document the event as proof and evidence of their violent and cruel act, so it can then be distributed or revised and reminisce their ultimate horrific crime. The camera acts as the recording tool, documenting proof of their violent self and their antisocial identity. Although no one really knows how widespread Happy Slapping really is, it can be verified that most 'Happy Slapping'

1 Summers, C., "Violent path of 'happy slapping'" BBC news 23.01.06

2 Anonymous "Four guilty of barman's killing" BBC news 14.12.05

3 Wikipedia reference on Happy Slapping search

4 Cohen, S., "Folk Devils and Moral Panics" p.7

5 "Violent attacks filmed on phone" BBC news 22.2.2006

6 Derrida J., & Stiegler B., "Echographies of Television" p.97

7 ibid. p.90 and p93

8 ibid. p.90

9 ibid.

10 Derrida J., & Stiegler B., "Echographies of Television" p.93

videos are clearly staged and not maliciously intended11. The most common Happy Slapping videos portray a juvenile delinquency and not a violent death. The act of recording, serves the purposes of authenticating what took place, of creating evidence of ones deviant behaviour. Creating a video to distribute amongst their peers in order to prove and circulate the deviant behaviour as an achievement, teens project and verify their violent identity. The Happy Slapping videos act as evidence and proof of violent behaviour in public spaces like the bus, the street or outside the supermarket. Happy Slapping videos become the 'witnessing of the event.'

The girl involved in the D. Morley case was reported to have a history of violence, she was apparently known in the Housing Estate she grew up in as a malicious in character and anti social12. It should be noted that most people brought to police attention because of Happy Slapping, are teenagers which have been previously identified as fostering violent behaviour. To date there has been no arrest of a person because they made, or where in possession of a Happy Slapping video. The media fantasise about new technologies and violence. This paper argues that it is not that the camera that prompts for the violent behaviour, the violent behaviour is already prevalent in the person, the camera prompts to record and create evidence of an event. Most of the Happy Slapping videos researched for this paper are hardly violen . The several 'happy slapping' videos shown in TV news and also found in websites such as you.tube and google.video where initially filmed for the purposes of projecting a deviant behaviour and violent identity, to be circulated amongst peers. Several TV news programmes are broadcasting over and over again the same Happy Slapping videos which are already accessible on the Web from the BBC news website or from a simple search in google video. TV news re-broadcast Happy Slapping videos, as evidence of the violent behaviour, of 'what has been'. The Happy Slapping video is reported and valued as a 'gruesome' proof, as an eye-witness account of the violent incident and delinquent, antisocial behaviour. A moral panic is born. BBC news, report on a tormented mother who has lost her son Triston. What makes the two stories, mentioned above, newsworthy is the alleged existence of a video recording of the event, there's a testimony, an eye-witness account. The media inflame and create a moral panic based on that idea. "The body of information from which such ideas are build, is invariably received at second hand. That is, it arrives already processed by the mass media and this means that the information has been subject to alternative definitions of what constitutes 'news' and how it should be gathered and presented"13 The irony in the Morley case and subsequent media interest was in that David Morley had survived the bombing of the Admiral Pub in London's Soho area in 1999,
where he worked as a barmen. The bombing of a famous London gay pub together with D. Morley's fatal attack, can be seen a 'hate crimes' against homosexuals. The media however chose to present David Morley's murder as a 'Happy Slapping murder' to give it the necessary media twist and make the story.

Evidential power.
Derrida and Stiegler repeat the phrase coined by Barthes; 'what has been'.14 The photograph due to its inherited properties of the camera obscura (direct mirroring of light) and chemical reaction (light sensitive chemicals) is seen as a frozen moment of time, represented onto a surface. "The photograph does not necessarily say what is 'no longer'; but only and for certain 'what has been'"15 Documenting reality with a camera attributes the

11 An unfortunate case of the happy Slapping media spin is that of Graham Barnfield, a Lecturer from UEl who was coined a 'happy slapping expert' after he gave an interview to the Guardian about Happy Slapping and its references to reality TV and shows like 'Jackass'. He was consequently contacted by a team from the Tonight TV news programme who showed him 'Happy Slapping' videos for their upcoming 'Happy Slapping' special. He latter told the Guardian: "Much of the footage seems to be either staged or endlessly repeated by being sent from one mobile phone to another. A happy slap doesn't appear very different from any other antisocial behaviour so it's hard not to think there's more than a touch of a manufactured moral panic about the way it's being reported" He added: "No one knows just how widespread the so-called craze is" Barnfield's is still quoted as a happy slapping expert news forums worldwide. Graham Barnfield in John Crace 'Graham Barnfiel; they though he was an expert. He is now" The Guardian. 7.6.2005

12 ref

13 Cohen, S., "Folk Devils and Moral Panics" p.7

14 Derrida J., & Stiegler B., "Echographies of Television" p.97 and Barthes R., "Camera Lucida" p.96

15 Barthes R., "Camera Lucida" p.85

camera as a 'time recorder', this is inherited into the digital camera. The digital photograph is no longer the product of a chemical reaction of light and chemicals. In the context of a handheld camera embedded on a mobile phone, the element of depicting reality, of a frozen moment in time, still applies. Photography is a time based medium digital or not. Barthes argues for the historical testimony imprinted in photographs, testimonies which are not mediated by the historian, he calls this "experiential order of proof"16 "if the photograph cannot be penetrated, it's because of its evidential power"17 The distribution of the happy slapping video amongst peers is a further proof of the evidential power of the camera. 'What has been' is distributed in the appropriate network to project their violent and antisocial behaviour. As proof that social order has been broken. The evidential power of the camera tool prompts for a documentation of juvenile deviancy. Barthes argues for the evidential power of the camera (the chemical and camera obscura inheritance), the happy slapping and happy slap videos act as proof of delinquent behaviour of the ones involved.

'Happy Slapping' videos and 'happy slap' videos can be found by a simple search on you.tube and google.video. An array of funny, elaborate and indifferent videos are tagged as 'happy slap' or as 'happy slapping' videos. The violent 'happy slapping' videos paraded in TV news are easily locatable, the other 'happy slap' videos in their majority are staged and enact a humoristic situation. Some Happy Slaps videos found in you.tube portray a delinquent behaviour in the class room, or on school grounds. In this case the video recording acts as proof of a deviant behaviour, as evidence to be distributed and thus project an image of 'cool' amongst the peer group. In the less extreme Happy Slapping cases of the teens distributing video amongst them, the recording is proof and evidence of 'what has been', to show off ones delinquent /deviant behaviour. In the most extreme case the girl from the D. Morley case was documenting the event, the mobile phone camera recorded the event, it capture in image the proof that she had witnessed the horrific event. What certainly made the horrific crime TV newsworthy was the fact of the existence of the video, the fact that the scene was recorded. And the inevitable possibility that such video might be unveiled through the subsequent police investigation

Happy Slap.

In can be argued that the Happy Slapping craze, reported and emphasised in the media has created a new teen trend online; the Happy Slap video. Teens stage and enact Happy Slapping videos. Clearly staged these videos vary from very young girls giggling while pretending to be slapped, babies 'happy slapping' the camera with their foot, to funny classroom incidents. 'youtube.com' , and 'google.video' host an array of videos uploaded by teenagers. Some teens have gone to great lengths to enhance their video, using post production tittles and editing effects. Teens create Happy Slap videos upload them online and email the link to their friends. A generation that grew-up in an increasingly screen-based world, is creating and managing their own media. The humour of these videos is found in the anticipation of the expected slap and in not knowing from which location it will come from. Some Happy Slap videos do portray a documentation of deviance. The video provides proof and testimony of a deviant behaviour. Some of these videos show happy slaps during teaching whilst the teacher is in the classroom. These teens record and distribute proof of their deviant behaviour. Other Happy Slap videos titled 'Happy Slapping revenge' and 'Happy Slapping Karma' portray a didactic message; the victim of the happy slapping reacts and turns against his attackers, managing to push them back, in a one against four ratio. The Happy Slapping media phenomenon has sprang-out a new trend. The teens who create and upload Happy Slap videos, have unquestionably watched TV news although it cannot be verified if a Happy Slapping video has ever been distributed within their social circle. These teens are most likely to have google-searched the term and seen the violent Happy Slapping videos on google.video or 'you.tube' and on the BBC news site.

16 ibid. p.79

17 ibid. p.106

Blue toothing

Hoax- 'toothing' and Bluetoothing
The other phenomenon reported by the media is that of 'toothing' and Bluetoothing.
In bluetoothing and/or toothing users create a nickname for their device and are able to scan for other devices in the vicinity, the users then get a list of nicknames of the other users in the vicinity. Bluetooth is a radio based technology that can connect wirelessly devices within a short meters radius. BlueTooth connects a wireless headset or keyboard to a mobile phone or connects a PC to a wireless keyboard for example. It also allows for communication between devices, i.e. the PDA, the PC and the mobile phone and establishes a local network where data can be shared. Using mobile phones Bluetoothing can be said to describe the process of sharing data through Bluetooth i.e. text, pictures, videos, whereas 'toothing' implies a sexual-intent connotation. A story read in a forum demonstrates how toothing can potentially work: a women in a bar, scans for devices and she finds a 'clit eater' nickname. She then changes her nickname to 'hello clit eater' and she sends him a text message , they then meet in the bar's toilets and have oral sex.

The Toothing term first appeared on the news in what is known now as the 'Toothing hoax', that took place between April and May 2004. A 'toothers' forum was set up that year, which hosted many users who claimed to have had sexual encounters with other commuters on the London Underground. In March 2004 Wired magazine published an article under the title 'Brits Going at IT Tooth and Nail' with an interview of the host of the toothing forum. The toothing hype continued in April with a Reuters report titled 'Toothing for Hi-Tech Sex with Strangers'18.' Biting into the new sex text craze'19 was BBC news report in May. The hoax was finally revealed in May 2005 when the host of the toothing forum posted a message: "Hello! - I never really existed, and neither did Toothing - Sorry about that. - The full story? Click here. - love, - Toothy Toothing xx"

The 'toothing'20 forum was the first Toothing forum and it was set up by the hoaxer. Two years after the 'Toothing hoax', there are forums dedicated to 'toothing' and other forums which host 'toothing' threads. In these forums people from Canada to Italy post invites to participate in bluetoothing sessions in an airport or in the Eurostar train. Most of the postings, found in these forums, are more suggestive than real. In the Active board forum for example there's a thread dedicated to 'toothing'21, users make suggestive comments about using Bluetooth but none of the posting suggest that someone had a real experience with 'toothing'. There are recent news reports suggesting that bluetoothing (as opposed to 'toothing') is an established way to get to know people in Dubai and in Bars in Milan22. None of the postings on the forums however, actually state that someone has met someone through Bluetooth. These posting are suggestive of what people 'might do'. The suggestive nature of these postings, imply a fantasy.

Scanning.
Beyond the suggestive postings on several forums in March 2006 during a one week period, nicknames were scanned on the London Underground (See chart) from Whitechapel station to Westminster station between 8am and 9.30am, using a Bluetooth enabled phone. The choice of time and place was chosen in order to assure to record commuters going to work and avoid teenagers who also use bluetoothing. The total number of nicknames scanned is sixty, forty of them revealed sexual connotations. Most of the nicknames scanned in the 5 days

18 Michael Holden ' Toothing for Hi-Tech Sex with Strangers' 22nd April 2004 BBC News

19 Chris Kelly.' Biting into the new sex text craze' 7th of May 2004

20 See forum's URL: http://toothing.blogspot.com/

21 See forum's URL: http://www.activeboard.com/forum.spark?forumID=23808

22 Ferreira-Marques "Fictional dating fad comes true for 'toothers' Reuters 10 March 2006, Article also appears in Wired magazine under the title: "Sexy Hoax turns into dating fad"

period were of sexually explicit content, for example: ‘8 inch’, ‘Carmisutra’,‘laniplops’, ‘Specialist’,‘Soapy’,‘;-) Reckless ;-)

Whitechapel Station to Westminster Station

Monday 6 March	Tuesday 7 March
Emz Carmisutra Margot Nokia Mila Dolly Parton laniplops Mr. Plow return journey TrevbearUK SpecialK Rachel's phone	ads ;-)Reckless;-) zeland Pest return journey shadow Tommy Soapy Specialist
Wednesday 8 March	**Thursday 9th March**
return journey John Muhanas Eclarke	Yusuf & Zahra 8 inch *_Twïnklê_* Stranger Umesh Phone

All these nicknames do reveal sexual connotations23.

Fantasy

Lacan and Freud argue that fantasy is the manifestation of desire. Pleasure in not found in actualising the fantasy in the real, physical world, fantasy remains into the imaginary plane where it’s fuelled by desire, desire however needs not to be realised.24 The principle in which fantasy is founded on is for the wish to never be fulfilled. Phantasy is the plan in which desire is manifested. For Lacan the drive is our primal instinct of our sexuality, according to Freud our drives are manifested in our phantasies. “The phantasy is the support of desire; it is not the object that is the support of desire”25 Toothing may not actually exist, people however who create sexually explicit nicknames aspire to it, as a fantasy. They express a desire to break free from social boundaries and social values of sexual reciprocation. It is as if by imagining and having a fantasy about the possibility of meeting someone, one breaks the social status-quo and pursuits a sexual or social encounter in the tube or make themselves ‘available’ by creating a sexually nickname inside a virtual plane whilst sitting at a bar setting. Users are projecting a desire inside a virtual plane, inside a social space. The potentiality of a social networking technology created the myth of toothing, a fantasy for its users who create innovative and sexually explicit nicknames. According to Freud in fantasy there’s no wish for it to ‘really happen’, a phantasy is the fulfilment of a wish. “The motive forces of phantasies are unsatisfied wishes, and every single phantasy is the fulfilment of a wish, a correction of unsatisfying reality”26. The

23 Note: During these scans, some phones appeared with their model name, denoting that users were not aware the Bluetooth is on, or that they are not aware that they can change their phone’s name.

24 See Freud S., “The Standard Edition of the Complete Psychological Works of Sigmund Freud” Book IX and Lacan, J., “The Four Fundamental Concepts of psychoanalysis” Book XI p.53-55 and 174-187

25 Lacan, J., “The Four Fundamental Concepts of psychoanalysis” Book XI p.185

26 Freud S., “The Standard Edition of the Complete Psychological Works of Sigmund Freud” Book IX p.146

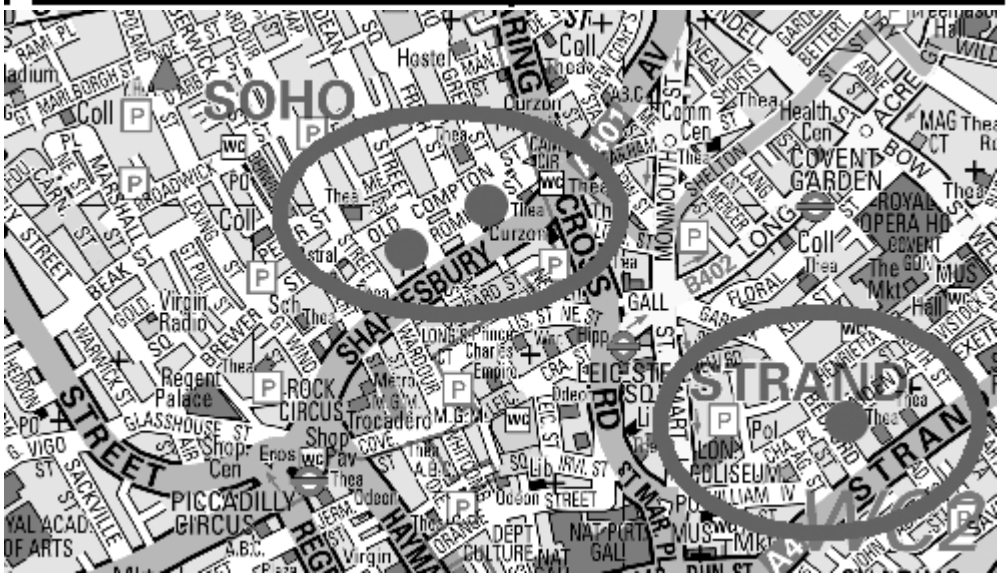
suggestions in the numerous forums that something might happen and the sexually explicit nicknames scanned in my survey portray a creation of a fantasy myth amongst users.

survey - questionnaires/interview

On Friday 10 March 2006 nicknames were scanned in bars in central London within a kilometre radius (See image map). In a Covent garden cocktails bar the nicknames scanned were for example : 'Super pug' , 'Knowware' , 'phong' whereas in Soho in Old Compton st. the nicknames were for example; ' AJ dirty gay' , 'Big Lizard' , 'Simbi'.

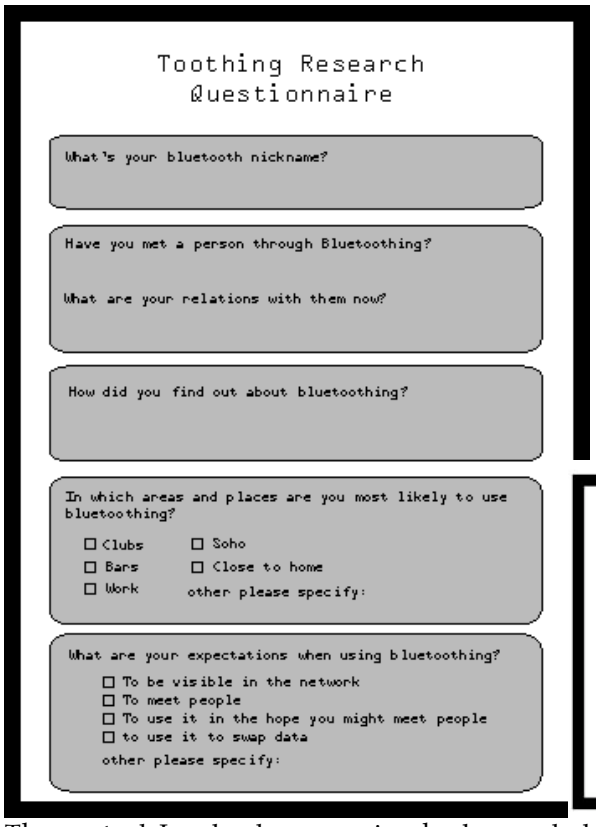
Friday 10 March Central London Bars

Covent Garden 'La Perla' cocktails bar		Old Compton st Soho	
7pm - 10pm	Super pug	10pm	Their gadess Davina
	Punialusia		Simbi
	Phong		Big Lisard
	bluey		jamie :>)
			Umberto
			AJ dirty gay



The scanning of nicknames revealed a concentration of 'gay' nick names around Old Compton st.27 On Wednesday 13 April I conducted a survey in Old Compton st. and the 'Comptons' pub in Soho. People seating in cafes in Old Compton st. were asked if they know about Bluetooth and if they've heard of bluetoothing or toothing. The majority of people asked, said they knew or had heard about bluetoothing although they hadn't used it themselves. In a couple of cases people, after I explained to them about Bluetoothing, some were prompted to turn on their Bluetooth and scan for devices.

27 There were also suggestions in the forums, for the use of bluetoothing in gay culture, especially in Milan. See footnote:20



The central London bar scanning had revealed the most concentration of gay nicknames outside the Comptons pub in Old Compton ST. On Wednesday 13 April, there were questionnaires and flyers handed out in the pub and there were also some casual conversations with the punters. When I approached a company of men, one said that he had used bluetoothing and was willing to answer the questionnaire (See images). 'Burbey boy' (he never introduced himself) also described how he met his now boyfriend for the last six months, in the Comptons pub. He said that he was scanning for nicknames when the nick name 'monkey' appeared on his screen. He then sent a photograph to 'monkey' and looked around to see who was checking their phone at that moment, he sough someone and he approached him asking: 'are you monkey?' he replied 'yes' and they started talking. 'Burbey boy' was hesitant to speak to me about the content of the photograph he sent. When asked what the content of the photograph was, he looked at me and did not reply. Another person in the pub who was not willing to complete the questionnaire, suggested that Bluetoothing takes place in this pub but later at night.
It is difficult to infiltrate a pub environment in the evening rush hour. An attempt was made to approach and interact with drinking customers. The combination of loud music and social interaction between the customers that spread into the pedestrian walk, did not allow for an environment in which questionnaires could be handed out and made any questions difficult to address.

The survey and nickname scanning, cannot verify if 'toothing' with a sexual intent actually takes place or if Bluetoothing is an established way to get to know someone in London' gay community. The nicknames scanned however do reveal that although none of the users may intend or actually believe that they will meet someone, to have sex or else, it this very fact of the potentiality of the event that exhilarates the users who create sexually explicit names and live out a fantasy. These two fantasised events; a random sexual encounter or an approach by a stranger, using a virtual plane, will never take place, but it is the actual fantasy that ultimately brings pleasure. Users project their sexuality into the fantasy plain; 'what might happen'. The potentiality of 'what might have been' forms the basis of a phantasy. The articles appearing in The Guardian, Wired and REUTEURS also fantasised that something is happening, in fact the editors of these publications were convinced. The potentiality of this technology made the hoax believable. The fantasy of

the existence of a virtual plane, as a social plane for sexual interactions, exited peoples' imagination. Although some users may not be aware of the hoax and have not read articles written about toothing, most users must be aware that they are visible within a network, a virtual social network that no one can see other then its participants. It is the possibility that something 'might happen' that intrigues and prompts for the creation of an innovative and sexually explicit nickname.

Breaking social pretexts.

Both for Lacan and Freud a phantasy is never to be realised. For Freud fantasies are day dreams28. According to Freud fantasies derive from a wish of the unconscious, they are the fulfilment of that unconscious wish.29 "fantasies are satisfactions of wishes proceeding from deprivation and longing."30 For Lacan the object of desire is either a phantasy or a lure. "But the object of desire, in the usual sense, is either a phantasy that is in reality the support of desire, or lure"31 People reading the articles about 'toothing' became aware of the potentiality, the 'lure' of the myth created. Users enable their Bluetooth devices and have the knowledge that they are visible within a network. It is as if users, who create sexually explicit nicknames, project a desire to break free from social boundaries, through a fantasy. In a social norm reality it is highly unluckily to liberate one self to the point where one can have sex with a absolute stranger. The myth of toothign aspires a 'phantasy' which appeals to its users; a fantasy myth of meeting someone in public by breaking social boundaries of what is an acceptable code of conduct. A fantasy, in which all the codes of conduct for flirting break and are replaced by a virtual plane in which the transmission of a dirty picture or the creation of a witty nickname, become the new way of communicating through a virtual space in actual reality. A Phantasy where one does not need to approach a person by the traditional codes expected to be preformed in the act of flirting. There's no need to buy a drink or charm your way into a conversation. A phantasy in which the entire social pretexts of 'getting to know' someone before they have sex, become obsolete. Within this new virtual social networking environment, people create nicknames without thinking that they will actually meet someone. The act of creating a sexually explicit nickname is acting out the fantasy. The uncertainty of the playing field (the virtuality) creates the fantasy. Expressing a desire through two possible fantasised events ; 'having sex with someone you don't know' or meeting some one without the social pretexts, users are aware of the potential; something 'might happen'. They project an image of themselves into a social network. Not thinking that this will result to an actual real encounter, but they wish it would. The very wishing creates the fantasy, never to be realised.

The hoax was believable in the context of a British sex liberated public, formed in the basis of a legacy from London's S&M clubs and other legacies of British sexual fetishes in politics and elsewhere. What made the hoax believable however, is what makes the people create nicknames now: It's the potentiality of the technology that inspires a desire to break free from social conventions (of how to meet and approach a person in public) and creates a fantasy where the participants do not actually wish they will meet people, but receive pleasure from the wish that something might happen. The desire is never to be satisfied the wish is fulfilled in the creation of the fantasy and participation in the virtual plane. The toothing hoax was based on the phantasy that, in an unlikely place like the tube a socially abnormal behaviour can take place. As Andrew Brown, the journalised that revealed the hoax, puts it in his article" the modern's commuter's equivalent of believing that the statue of the Virgin weeps for you"32

Whereas happy slapping records 'what has been', Bluetoothing phantasy manifest a wish of 'what might have been'. Both the Toothing Hoax and the Happy Slapping media phenomena have inspired two new trends. Teenagers are making Happy Slap videos and

28 Freud S., "The Standard Edition of the Complete Psychological Works of Sigmund Freud" Book IX p.147

29 ibid. p.238

30 ibid. p.159

31 Lacan, J., "The Four Fundamental Concepts of psychoanalysis" Book XI p.186

32 Andre Brown " A worm's eye view" The Guardian online 2 April 2004.

upload them online. There are reports and evidence to suggest that bluetoothing is used in Milan and Saudi Arabia as a way to get to know people.

Dubai.

Reuters, BBC news and the associated press all report on bluetoothing in Saudi Arabia. In places like Dubai, Qator bluetoothing enables flirting in public. According to religious law women cannot be approached by men in public. Bluetoothing offers a free space in which users can send each other 'cute' images and messages. A girl in Qatar says; "it was a lot harder to meet guys before these new phones"33 This article states that before Bluetooth flirting with girls was impossible, some of the interviewees say that they use to throw their mobile phones to the girls car in order to speak to them. In Riyadh there's concern over the circulation of girl's pictures and schools warn their pupols of the possibility that pictures of their mothers or sister might appear on their friends mobile.34 A boy in Dubai says "In our country it's rude to go up and talk to them. I sent some notes, they liked them – they took my number and they called me. I say nice things – I'm into poems"35 In these cultures were men and woman are segregated in the family and in the public, Bluetooth enables a communication between the sexes that goes on in any case. Secret communication between the different sexes in public, is facilitated by this new technology.

Conclusion.

In both cases 'Toothing' and 'Happy Slapping' it is uncertain how widespread they are. It is questionable why the most violent Happy Slapping videos can be accessed through the BBC. And I do wander if I have stumbled on some sort of Nokia viral marketing about Bluetoothing. What is certain is that people do create sexually explicit nicknames on the London Underground and London bars. Teenagers are creating Happy Slap videos and share them with their friends online. Two myths have aspired two real trends. Like the upcoming revolution in the music industry, where the bedroom DJ will become the star. Teens are holding a recording device everywhere they go, they make happy Slap videos, upload them online and email the link to their friends. Teens integrate different technologies and networks to communicate with each other. Accustomed to text and screen-based telecommunications, the 'Happy Slap' trend in you.tube is coming out from teenage users all around the world, 2.000 vide3os currently on youtube have a 'happy slap' tag. A mobile phone with a digital camera is cheaply available or even given free where starting a contract with a mobile phone network. Teenagers think about narrative, they frame and direct a video, they create their own media. In bluetoothing nicknames express a desire to break from social conventions. These two phenomena of the use of the space of data share and exchange manifest an ataxia a break from the social order, via a projected 'tele-deviance'.

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NETWORKS AND SUBJECTIVITIES

Rethinking Structure and Causation in Network Theory

Bernhard Rieder

In the current state of "network theory", the term "network" is not only highly ambiguous epistemologically (is it a merely a concept of descriptive analysis or do networks claim ontological quality?) but also conceptually (mathematical graphs, forms of human sociability and cabled connections between computers are obviously not one and the same thing). While this openness affords the possibility of relating previously unrelated disciplines, their specific knowledge and modes of inquiry, and the discovery of stunning similarities in behavior of very different classes of phenomena, there is a quite real danger of slipping into the realm of pure metaphorical analogy where the "parliament of things" (Latour) is loosing its force of intervention and difference is silenced by universal connectivity. My contribution will therefore concentrate on questions of classification and differentiation, i.e. the task of identifying commonality and, more importantly, of features or attributes that are not shared by different types of networks, even when they are directly related. The principles of "structure" and "causation" seem to be of particular interest in this context.

Post-Rekombinant Networks or the Transition from the Cognitariat to the Precariat

Michael Goddard

Introduction: Attacks on Activist and Artistic Recombinance

Some-one must have been telling lies about Steve Kurtz because…when he reported the death of his wife on May 11 2004 to emergency medical services, these same services contacted the FBI who detained Kurtz on bioterrorism charges (subsequently amended to spurious charges of mail and wire fraud). It is not necessary to revisit the facts of this case which are now quite familiar or to repeat the arguments of critics such as Anna Munster, who point to this example as demonstrating the way that contemporary politicized art practices such as Critical Art Ensemble's contestational biology or Marc Lombardi's maps of speculative capital have become caught up in new forms of what she calls contingent and speculative control, however unrelated and absurd the two cases may initially seem to be. I will, however, be returning to CAE's particular conception and practice of recombinance and also to the tactical and in my opinion somewhat disingenuous phrase used in Kurtz's defense namely that "Art is not Terrrorism," both the terms of which have become radically indeterminate in the current conditions of which Kurtz's detainment gives such a paradigmatic example.

Instead I want to relate this event to another instance of recombinant practice coming under attack, namely the hacking of the Rekombinant Website, a site initiated by Franco Berardi (Bifo) and Matteo Pasquinelli, the following summer by apparently autonomous agents only known as zakokkk.org which is a non-existent Website. This event, which put the Rekombinant Website out of action from more than a year and more or less marked the end of its initial conceptual orientation towards the 'cognitariat,' a concept I will return to is also not without paradoxes and absurdities, not the least being the undermining of the very figure of the hacker as potentially subversive actor. Instead we have one of many examples of the hacker simply as an anti-social 'intelligent idiot,' attacking a political website, not for any political purposes but simply because it is an easier target than the more strongly defended Websites of corporations and other institutions. This event differs in almost every respect from the CAE case, in terms of the type of attack (hacking versus criminal proceedings), the perpetrator (autonomous hackers versus law enforcement agents), the object of attack (the body/documents of an organic being versus the life of a virtual community) and the consequences (different forms of personal and collective distress that cannot be measured against each other). However, there is a common denominator between the two events, namely that CAE and Rekombinant both shared and articulated in particularly intense ways the use of Recombinance as a political and aesthetic network strategy and both were, despite instances from their own work which would seem to indicate the contrary, radically unprepared for these attacks on their recombinant projects.

I would therefore like to explore the ideas of recombinance deployed by both groups, both conceptually and in collective practice and ask the question as to whether the conclusion of these attacks is that recombinance is no longer a viable network strategy or instead whether these attacks pose the Foucauldian question of how recombinant practices, and civil society more generally might be defended.

Defining Recombinance

To begin with it is necessary to have a clear definition of recombinance; in its most literal meaning it refers only to recombinant DNA which is artificially produced DNA based on the line of scientific discoveries from Crick and Watson's isolating of DNA as the governing principle of cell replication in the 1950's to Cohen and Boyer's development in 1973 of the technique for artificially recombining genes, which could then be used to effect genetic modifications of living organisms. From the earliest experiments in inserting artificially engineered DNA into bacterial plasmids have emerged such results as genetically modified food, gene therapy and of course the spectre of cloning. This in turn has given rise to highly polarised ethical debates, based most frequently not on what these technologies are

actually being used for but on their potentials such as the potential for human cloning based on eugenic principles, potentialities that both CAE and *Rekombinant* were very interested in.

Recombinance According to Franco Berardi

However, this is a rather narrow, technical view of recombinance that both CAE and Franco Berardi, one of the animators of *Rekombinant* would reject. In Berardi's book, *The Factory of Unhappiness* (La fabbriche dell'infelicita), there is an explanation of how recombinance, despite its origins in the apparently distant field of molecular biology and biotechnology, can form the basis for political network strategies. What was novel about the paradigm of recombinance in biology was that it marked a certain conception of life as manipulable information in clear resonance with the development of digital technologies in the sphere of communications (the DNA becoming considered as the software or programming of organic organisms). This enabled biologists to intervene in the production and modification of life by modifying the genetic information itself and therefore open up the whole field of genetic modification that is being implemented today and which is epitomized by the human genome project that aimed to code the whole of human existence as information. But if recombinance is a question of manipulating information in order to effect mutations, then it is not only applicable to DNA but more generally to the entire sphere of the digital that operates by essentially the same principles. According to Berardi, "recombining means changing the relations between different elements in such a manner as to produce semiotic and functional effects that are different from what was determined by the preceding combination" (Berardi 199). The sphere of cognitive labour is also a site of recombination, since work has become inseparable from mental processes and therefore the brain is directly hooked up to networks functioning according to the logic of capital. This means that there is no distinction between work and political activity since both are processes of cognitive self-organisation: "The method of social action in the digital universe consists in the recombination of sociogenetic elements: the interfaces between technology and social relations" (197). The problem this poses for political engagement are not simply that the left has failed to understand the significance of the Net but rather that cognitive labour shows that society is no longer governed by representational politics but by technical automatisms, directly linked with the logic of capital on the one side and the social mind on the other. If there is no separation between work and social action then they both intersect in the figure of the cognitive worker, which Berardi renames the cognitariat, who, as immanent in the construction of these techno-linguistic automatisms, is also the only actor in a position to deconstruct or refigure them. Again this cannot be through any return to earlier models of representative politics, or any focus on the spectacle as representation of social alienation but must take palce on the level of information itself. In this sense, the cognitariat functions very much as the recombinant DNA of technological societies, currently being massively engineered by capital but also capable of other processes of recombination. As Berardi puts it, "Cognitive labour produces mental states as well as technical and imaginary concatenations. The effects of cognitive concatenation on the social mind are irreversible[…] It is possible to recombine the relations between capitalist semiotic variables and other semiotic variables (technical, aesthetic, affective etc.). […] Therefore the cognitariat will be considered as the agent of the process of recombination capable of functioning transversally in the interior of the social field." What we see here is a direct translation of the biological concept of recombinance into the sphere of the digital and specifically the paradoxical role that cognitive labour plays within it. This wager on the subversive potential of the cognitariat as the genetic interface of contemporary technological societies would provide the basis of the *Rekombinant* network, which was a collective expression of these ideas. *Rekombinant* was neither a mouthpiece for Berardi's ideas, nor a typical activist Website but aimed at being a dynamic recombinant strategy by means of which political action, philosophical thought, cognitive labour and network technologies could creatively intersect, with the aim of facilitating an autonomous production of subjectivity, contesting the hegemonic alliance between neo-liberal capitalism and cognitive labour.

Recombinance According to Critical art Ensemble

Critical Art Ensemble enact a similar yet distinct operation on the concept of recombinance, which played just as vital a role in their actions, conceptual elaborations and experimentation whether in the fields of digital technology, biotech or bioterrorism. In their first book, *The Electronic Disturbance,* they refer to recombinance in relation to both performance and to hypertext and what they call utopian plagiarism. The former connection would only be fully elaborated later, but in the chapter entitled "The Recombinant Theater and Digital Resistance," they express a similar rejection to performative strategies that only remain at the level of the spectacle and representation. They give the example of some-one applying for a bank loan. This person P adapts fully to the performative requirements of the situation, dressing well, wearing the appropriate adornments, filling out the application from clearly and correctly and using "good blocking techniques such as handshakes" etc. However, while this performance is enough to get P through the door and into the bank officer's office, it doesn't work at all on the most essential level, which is that of P's spectral double expressed digitally through P's previous credit and financial transactions. As CAE point out it is this data double that controls the stage and this is the only performance that the bank officer is really interested in. A recombinant, rather than a merely spectacular performance will be one that acts directly on this spectral digital level of information, rather than on the level of what they would call analogue representation. In the same work, they also address recombinance in relation to practices of plagiarism and hypertext. The give a history of plagiarism as key to avant-garde practices form the 19th Century to the present citing Lautreamont's phrase, "Plagiarism is necessary, progress implies it." Whether it is a question of collage, readymades, pop-art or literary cut-ups, all of modern Western art has been based on plagiarism and therefore attacks all forms of textual essentialism in a hypertextual practice, even before the technical invention of hypertext. In the contemporary context of rapid information exchange, only plagiarism is capable of constituting a workable recombinant method for cultural production: "plagiarism fulfils the requirements of economy of representation without stifling invention. If invention occurs when a new perception or idea is brought out—by intersecting two or more formally disparate systems—then recombinant methodologies are desirable." This kind of recombination is not a new invention, CAE for example point to the recombinative practice of Leonardo da Vinci, but the invention of the computer means that recombinative technology is now widely available and used by power so the problem for contemporary cultural producers becomes one of hacking; "to be a successful plagiarist, one must also be a successful hacker."

These performative and hypertextual perspectives on recombinance were brought together in the later book *Digital Resistance* which is more or less a summary of CAE's interventions into digital culture before their more recent investigations into biotech and bioterrorism. In the chapter "Rekombinant Theater and Digital Resistance," CAE explicitly reject the specialization of both the terms recombinance and digitality, pointing out that in fact the two terms are inseparable and refer to a whole emergent regime of functioning, what they call a new cosmology that is by no means limited to biology and communications but also is crucial to economics, science, cultural production and everyday life. In the realm of science, while chemistry have tired to hang on to analogic versions of the cosmos, biology was quick to embrace the digital and this was indeed the condition for the emergence of recombinance as a paradigm of molecular biology. The discovery of DNA was nothing other than the postulation of a digital paradigm operating within the organic, therefore rendering life itself amenable to genetic intervention. Computer science and biology have developed in parallel and become dominant over the last fifty years because of their joint embrace of the digital paradigm, which is really also the effect of their mutual immersion in the key fluid of digital functioning which is capital itself. The sphere of cultural production has been rather slower to adopt recombinant and digital principles and when it has done so this has tended to be in the watered down version of postmodernism or interdisciplinarity, with truly recombinant practices relegated to the margins of avant-garde practice.

Just as earlier CAE insisted on the uselessness of political strategies based on sedentary principles (such as the seizure of territory) when power itself has become nomadic, in this chapter they point out the futility of what they call analog forms of resistance in an era in which power is both digital and recombinant (which amounts pretty much to the same thing). This does not mean that CAE are champions of the liberatory or utopian potentials

of the Net, rather they take an extremely critical stance towards it claiming that all the Network promises of democracy, community and participation are mostly illusionary and for the most part the Net is capitalist "business as usual" and probably even worse than usual. From a performative perspective, recombinance has always characterised such phenomena as street theatre and happenings, or at least those instances in which there is the construction of "interwoven performative environments through which participants may flow." In these events, "participation, process, pedagogy and experimentation are the key components for further recombination." However, this theatre of everyday life is limited in that in order to ensure the kind of participation it is based on, it remains tied to everyday life and cannot communicate a complex conceptual structure.

This is the point at which there can be a leap into the digital but CAE caution against the too rapid immersion in the framework of digital technology or the 'virtual theater' which they claim has so far shown no capacity to provide a multifaceted social dimension and or any resistant potential, "the virtual theater available seems to reinforce the worst elements of the disembodiment of the technocratic class for the sake of greater instrumentality." They reject outright the use of the virtual as merely a new display technology for older media (such as video) and are skeptical about the much celebrated ideas of virtual community and the potentials of netcasting; in all of these manifestations, technological mediation limits if not eliminates the polyvalent participation that was the strength of 'analog' performative practices, culminating in what they call after Debord 'enriched privation.'

Paradoxically, the best use they can find for digital technology is not interactive but unidirectional as the extension of a performative space and the incorporation within it of simulations that would not otherwise have been possible; in other words as a form of interface. The effectiveness of virtual technology consists in its ability to loop virtual space into real space, thereby surrendering virtual interactivity in favour of performative participation in a digitally enhanced space.

To sum up, CAE are highly ambivalent towards the use of digital technologies as the basis for political recombianant practice, even if they make use of them extensively in their own work. On the one hand they remain highly suspicious of the utopian promises of virtuality to provide community, democracy, expanded consciousness and interactivity which they see as for the most part just the latest version of "corporate hype to convince consumers that this time, the technological wish fulfillment machine will be a reality." On the other hand, they concede that ICT does have certain capabilities, such as for organising information that can solve some of the conceptual problems associated with recombinant theatre such as communicating complex ideas beyond the sphere of everyday experience, providing that the dimension of multiple and unmediated participation is not lost.

What both Franco Berardi/*Rekombinant's* and CAE's practice clearly shows is the extension of the concept of recombinance beyond the sphere of molecular biology and into the realm of cultural production and activist practice. However, the later development of both *Rekombinant* and CAE's interventions into biotech and bioterror also show the risks of such a venture and its uncertain results. It is certainly clear that there is a concerted resistance on the part of a variety of powerful forces whether corporate, institutional, legal, habitual and even autonomous to the political use of recombinant practices, which are really the desire to maintain a monopoly on their use and development for functional capitalist ends. But the attacks on recombinant projects also may indicate that they are clearly tapping into some vulnerable points in the current operations of Neo-Liberal capitalist power, even if they at the same time point to the vulnerability of politicized recombinant practices themselves that by their very openness to a multiplicity of forces are also all the more open to attack. The future of recombinant strategies may well be dependent on their capacity to anticipate and defend pre-empt attack, whether through greater camouflage, or more functional alliances with other similarly motivated groups and individuals, in an era in which precarity and vulnerability rather than illusions of revolutionary triumphalism are dominant both on and off the Net.

[*Author's Note:* This paper is only the first part of a discussion that will examine in more depth the recombinant practice of both CAE and the *Rekombinant* Site, as well as discussing

both the transformation of the latter's paradigm of the cognitariat to that of the precariat and the shift of CAE's activities from the digital towards biotech and bioterror and coming to some conclusions about the future of recombinant strategies in art and activism.]

Subjects that matter: Subjectivity in Network Reality

Konstantinos Vassiliou

In network theory two notions from French literary theorist Roland Barthes have been critical for describing the subject's relation to what is called a text -or in this case- a hypertext. Barthes' distinction of *writerly/readerly* texts and his famous proclamation of "The death of the author" have provided the academia with a way of proclaiming the end of long-feared individuality of the author but also with a reinforcement of the individual as a *poietic* cultural entity in the realm of the hypertext. For Barthes his view of these two notions was clearly leading to a way of privileging the reader's position against the eloquent but monolithic and subtle power of the writer: in a readerly text the structure of writing is concealing his ideology emanating from the authority of the author making it seem written in neutral *langage*; in a writerly text the ideological apparatus is made clear and the reader can himself *write* the meaning he wants to produce. Additionally in the "Death of the Author" Barthes announces not the end of literature but the end of a single voice of internal authorship. The later is being replaced by a non uni-vocal multiplicity in the level of the author's discourse that is providing free space for what Barthes did himself best: literary criticism. Barthes' texts were at the time revolutionary, especially from the point of view of the average French intellectual who was intimidated by the pantheon of French literature, and have been pointed out as one of the theoretical cornerstones in hypertext theory and thus have been largely applied to networks. But in terms of contemporary network theory there is still a crucial question to be answered in the field of network practice: How are we to think the reader of the networking hypertext as reader-or should I say user- and as producer of the specific network? This paper will provide some theoretical thinking on subjectivity besides literary theory and post-structuralism that have been extensively used in networks. It cannot of course analyze to full extent the answer to this question but will suggest a strengthening of the role of subjectivity in the conceptualization of networks. As this is a 'theory' conference I will focus mainly on making some theoretical connections around this question.

In terms of cultural theory this topic appears very important focusing on two basic parameters. First of all that in contemporary postmodern theory the reader-user himself is being largely conceived very differently than an autonomous and absolutely logical subject- and paradoxically postmodernism has in some cases considered this conception more politically correct for the postmodern *flaneur*. For example in much of the poststructuralist French theory such in the schizoanalysis of Deleuze and Guattari or Lacanian psychoanalysis, desire and language exceed the formation of a stable subjectivity. Moreover in the enclave of a media world we can not think in terms of the traditional historically defined subject, a point which is for example a subtle pre-requisite in the thinking of Baudrillard. Simulacra appear not only because there is no reference to external reality but because there is no absolute truth about ourselves too, and this comes more and more apparent with the current debate on what is to be human. I will even go further on and suggest that there is a significant difference in terms of subjectivity that is becoming more clear after several technological and political convergences since the nineties and the fall of the Berlin Wall, although this point requires further elaboration which exceeds this paper. Secondly, we are starting to be more intensely aware between our role as monads and our role as parts of networks. It is apparent that our era is still filled with traditional ethics which rely on the self-definition of the subject but at the same time we operate in ubiquitous networking not only in technological and informational level but also in a

cultural and even environmental level. Manuell Castells had a certain intuition to argue that "our societies are being structured more and more in a polarization between the network and the self"[1] a condition being experienced harshly in contemporary society. So, if we are to think the previous question that examines the producer and reader-user of a network we can not escape our postmodern cultural condition where subjectivity is largely reshaped- at least in terms of 'theory'. Combining this with our postindustrial economy and the overall change in contemporary politics the use of typical modernist essays concerned with the relationship between the subject-producer and cultural agency, as for example Benjamin's 'The artist as producer" would be clearly outdated in terms of subjectivity and politics. It is even debatable if literary theory, such as the one from Barthes mentioned above, is applicable in the omnipresent network structures of our time. Instead, as a common denominator in rethinking subjectivity is the rethinking of what is Man and especially the breaking down the barriers with what has been metaphysically assigned to Man I will engage here in an *actor-network* analysis conceiving man as a pre-eminent agent in the networks concerning information technology structures.

Actor-network theory was developed initially from French philosopher of science Bruno Latour. Latour's theory main target was showing that the alleged objectiveness of scientific discourse was not independent of the material and semiotic relations between the parts that do constitute these relations. These parts are referred as *actants* and these relations as networks. The word network has a specific meaning and indicates 'that resources are concentrated in a few places-the knots and the nodes- which are connected to one another, the links and the mesh: these connections transform the scattered resources into a net that may extend to everywhere"[2] This objectiveness was traditionally the main differentiation between positive sciences and humanities, or as Latour puts it between 'subjective individuals and objective representatives'.[3] This point changes significantly the dynamics between the traditional components of technology and its users. 'The fate of facts and machines is in later user's hands; their qualities are thus a consequence, and not a cause, of collective action". [4] In a computer connected network such as the Internet it has become common *topos* to say that operating in a network, forms special traits for each subject implicated in it. A vast bibliography exists on this topic which acknowledge this change not only as an interaction of the subject and the network based but also a change in what we conceive as human through our interaction with machines. Maybe more is to be said on the way *we* are influencing our networks and technology structures, which in any way can not be thought without the human factor. But what is more important here is that both of these views are problematically based in an *a priori* barrier drawn between technology networks and users.

In most technological embedded networks the technological structures are more or less thought as the basis of the network but with an actor-network analysis we suddenly have a quite different view. No network can be thought without accounting the people that use it for two main reasons. First, machines do not function independently from the way people use them. In Latour's thinking our competence in using our machines is a special material-semiotic *performance* that affects the network we are engaged. A 50 year old man usually has a very different way of manipulating his computer than a 25 year old computer wizard. Secondly and most importantly, networks are not being made in void of cultural preferences of every user which is becoming more apparent with the struggle of every user for identity in the network. This constitutes a great deal of the *semiotics of the network*. The identity of the user in the network is starting to become a major *semiotic-actant* in the formation of the network because it is the point that retains the relations of the user to a specific networking environment. This for example is strongly indicated in cases of art where the artist even if he creates a participatory open work still retains the identity of the programmer who in the community of the network is being credited as an author-here

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[1] Translated in English from Castells, Manuel, *L'ère de l'information, vol.1 : La société en reseaux*, Editions Arthème Fayard, Paris, 2001, p.26 (my own translation in English)

[2] Latour, Bruno, *Science in Action: How to follow Scientists and Engineers Through Society*, Harvard University Press, p. 180

[3] Latour, Bruno, op. cit. p. 78

[4] Latour, op. cit. p. 259

the semiosis is Art. It is also apparent in avatar identity in the net. This kind of struggle for identity in the net is in a way reversing Castell's assertion: the growing tension between the net and the subject is becoming the subject's last struggle for affirming a stable identity, this time on the net. So if one of postmodernism's conditions is the loss of every stable interconnection in an ever changing cultural amalgam, networks- the materiality of this amalgam- can paradoxically become a powerful agent for identity and subjectivity.

This point can be thought in conjunction with a concrete materialistic example in terms of subjectivity: the body. As Terry Eaggleton has accurately recapitulated on the relation of body and subject in postmodern culture 'in the postmodern subject, in contrary to its Cartesian ascendant, the body is an inextricable part of its identity'[5]. Considering the physicality of the body in the agency of the subject in networks is probably one of the keys of enlarging networks outside technologically determined conceptions. It is also a way of surpassing the conception of a non-embodied intelligence which characterizes most of the identities of computer users as in the example of avatars and in various applications of telematics. Ultimately, if we are to accept that network formations are one of the leading components in the ongoing reorganization of our society, thinking the agency of the body in networks is crucial in conceptualizing the *habitus* (disposition) of the body and in building our defenses against the bio-power that can be exerted to it.

But the integration of subjectivity in networks is of course experiencing some strong conceptual problems, and the first one is of course how are we to deal with subjectivity's decline. It has been often pointed that one of the main political-in the broad sense of the word- characteristics of an ubiquitous organization of networks has been the decline what of traditionally the west has defined as subject or even more what the discursive normativity of power has labeled as Man. This for example is apparent in concepts such as *multitudes* of Hardt and Negri. But going back to what Barthes was implicating with his notions of *writerly* text and following our analysis of the subject as an *actant* in a chain of networking relations we see that an eradication of the subject is a bit more complex: it goes round identity politics, our struggle for self-suture and the on going dissolution of the subject in digital society. There is no doubt that this dilemma between the subject and the net is creating an aura of anxiety in the threshold of digitality. In academia several people have chosen to take sides in this dilemma sometimes even before the evaluation-or even by plain omission- of the relationship between culture and the technical innovations created in the midst of the radical changes in our media environment. In generally, these sides have been a postmodernist stance insisting on a polemic against whatever political repression may involve an acceptance of a certain homogeneity of subject -which is broadly referred as essentialism. On the other hand, several have seen this as the exact phenomenon of political inertia of postmodernism and call upon the necessity of essentialism even for strategic-political purposes, as for example Terry Eaggleton or Gayatri Spivak.

But following this dilemma in the networking environment means not to avoid talking about the actual cultural representation impeded in the network. In the case of telecommunications probably the most decisive network of all that appears in our everyday life, the answer to this dilemma is sometimes being given devoid of the cultural representations already carried within the formed subject that are finally *actants* in the network. Instead the two most commonly used terms for the postmodernist political theory of the network *rhizome* and *multitudes* are generalizing in a very abstract way the function of the network. In the case of the rhizome a term that Deleuze and Guattari conceived in the seventies almost as a literary hypothesis, Richard Barbrook[6] has pointed the abuse of the term in describing the current relations formed in the Internet. Giving the subject the place it deserves in the network means not replacing by philosophical concepts valid to a more general sphere of media and finally of worldview, the actual cultural representations of the networking structures. But in the contemporary dogma of academia

[5] Eaggleton, Terry, *The Ilusions of postmodernism*, (greek edition *Oi autapetes ths neoterikothtas*), translated from English by Giorgos Spanos, Kastaniotis, Athens, 2003, p. 107 (this extract is re-transalated in English for this paper)

[6] See Barbrook, Richard's article "The Holy Fools" that is aiming against avant-gardism and deleuzianism in network theory in his university internet address: www.hrc.wmin.ac.uk/theory-holyfools.html

postmodernism's mainly discursive nuances-although very inspiring- have replaced the basis of every discussion on a network, that is the parts net-working together. What is the main advantage of this examination is that it focuses on the actual act of connecting instead of describing the overall status of a network. It is a change of focus from the spectacle of the network to the reality status of the network. If the simulacra have eradicated any external reference of reality it is probably only the reality of network structures that can-in the world of media- have an ontological status of real.

Back in 1995, about a year since the launch of the World Wide Web, Mark Poster was discerning between two main discourses in the academia: the possibilities of postmodern culture and the massive changes in the communication systems. According to Poster "postmodern culture is often presented as an alternative to existing society which is pictured as structurally limited or flawed. New communications systems are often presented as a hopeful key to a better life and a more equitable society"[7]. In "Postmodern Virtualities" Poster tried to combine these two theoretical directions. Culturally and geo-politically several changes have differentiated these two discourses from the mid nineties but since then a great deal of academic writing is in this vein. Integrating the subject as a more active partner of the network is, I think, needed for anyone wishing to get the subject out of the apolitical ultimatum of hypperreality to a more politically active community.
This is in close relation to the shift in contemporary rethinking in subjectivity. The modern subject is more thought as a system of relations than as an auto-productive entity. French poststructuralist theories of Derrida, Foucault and Deleuze along with identity politics issues have stressed this point. Various relationships govern micropolitics, oppositional relations emerge between the subject and the impersonal bio-power and our evasive reading in the surrounding texts enforces our position as a reader. Networks operate in this perspective as a new way of organizing these relationships which are defining subjects and are also being defined by them. Someone can even suggest that in contemporary society subjects can be thought of only as a result of factual relationships. But it remains of course a question to be addressed whether the media networks are the most crucial aspect of these relationships, and to what extent we can argue for technological and media determinism in the formation of the contemporary subject. But what is becoming more and more politically urgent to be addressed is that beside media themselves networking can be a way of refiguring subjectivities or even in an extreme case making subjectivities obsolete.

Postmodernism has hold of two contradictory concepts in celebrating the end of the unified subject and on the other hand celebrating the end of the "ends" the loss of any eschatology. Jean Luc Nancy point out that 'those who do their best to denounce that a thinking of 'end' would be an illusion are right against those who present the 'end' like a cataclysm or like the apocalypse of an annihilation"[8]. Moreover, postmodernism has well demonstrated that subjectivity is an interdependent notion and is not delineating a completely free independent monad with an essence non-definable by power and society. But it seems to me that in a considerable part of academic writing, subjectivity is being dismissed all at once. Probably the most important work on this direction is the one from Peter Sloterdijk and his theory of spheres in the course of human history. Spheres in Sloterdijk's terminology delineate a way of describing the human space in the interactive relationships of humans with their environment. Various spheres interact with each other in each time and impregnate each other's space thus forming innumerable unities. These spheres operate also in material semiotic level just in Latour's theory and a parallelism in two theories has been pointed out by Sloterdijk[9].

In the dilemma mentioned above between the essentialism of the subject and postmodernism attack on subjectivity, a great deal of network theory has hasted in choosing a camp in this academic and political debate. But I think we can somehow surpass this

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[7] Originally edited Poster, Mark, "Postmodern Virtualities", in Mark Featherstone and Roger Burrows (eds.), *Cyberspace/Cyberbodies/Cyberpunk*, pp.79-95, Thousand Oaks, CA:Sage, 1995 here cited from Douglas Kellner and Meenakshi Gigi Durham, *Media and Cultural Studies*, Blackwell, Padstow, 2006 p.533

[8] Nancy, Jean-Luc, *Le sens du monde*, Editions Galilée, Paris, 1993, p. 14

[9] See for the French edition Sloterdijk, Peter, *Ecumes: Sphères III*, translated from French to German by Olivier Mannoni, Hachette, 2005 (2003), pp. 18-20

dilemma in various theoretical restructurings of humanism such as the constructivist method of Latour's and/or Sloterdijk's. We can affirm that networks have become a main thematic for the abolishment of subjectivity, along with the theoretical abolition of limits between man and machine in cybernetics although there is no doubt that various ideas born from this direction can have significant political and theoretical importance. But what seems to be crucial especially in political terms is not omitting the *actant* of subjectivity in networks, which sometimes is the case when we take networks as purely technologically determined structures. Finally, in the world of multinationals and schizophrenic capitalism it is a bit dangerous to cast away all the spells of subjectivity: as much as there are crucial political issues when dismissing the subject's metaphysics, it's *magic*. But apart from this magic there is also a time for a spell where subjectivity-especially if it is examined in a network environment- can contradict the cultural logic of capitalism

The purpose of rejecting consensus-oriented communication on the Internet – An economic approach to explain the strategy of saying 'No'

Natascha Zowislo, Franz Beitzinger and Jürgen Schulz

It is a somewhat naïve and normatively-burdened idea that the purpose of communication is to create consensus. However, it is easily overlooked that precisely the 'no' and the lack of a goal to reach agreement by no means eradicate communication, but in fact increase the communicative options and connectivity among the participants as conflicting interests and alternative points of view, rather than the aspiration for agreement and harmony, constitute a communicative relationship.

In the event of an unresolved or ongoing conflict, we tend to speak of failed communication, since communication, in general, carries a positive connotation. The overrated idea of understanding and agreement makes it more difficult to examine and evaluate conflict as a phenomenon of successful communication. Not without provocation does Luhmann (1984, 531) assess conflicts as a "social system of a special kind". Considering the idea more closely, we find that conflicts are an excellent example for communication. Conflicts arise when one party declines the offer to communicate made by a second party, while it is exactly this dismissal that becomes the topic of the resulting communication between the two. "Protest is communication, which is directed towards others and demands their responsibility." (Luhmann 1991: 135) An unfamiliar perspective: it is not understanding and harmony, but antagonistic interests and points of view which constitute a productive communicative relationship. In any event, analyses dealing exclusively with communicative understanding can be said to be naïve, since – burdened by the normative concept of discursive consensus and dialogue - they easily overlook the other side – the 'no'.

Hereby, organizations play a special role, when their routing difference – i.e. the characteristic by which a system tries to differentiate itself from others and thereby ascribes itself a certain identity – can be found in conflict or in concernment about the issue of conflict, respectively. These organizations can be labeled protest groups. Examples are groups with the goal of protecting the environment such as Greenpeace or the organization Attac evolving around its criticism of globalization. By means of communication through mass media, they want to force other already established, often times well-known organizations, into opposition and antagonism. The roots of protest movements rest with formerly unambiguous motives – the struggle against an impermeably stratified order of society. Today, almost any decision offers the welcome opportunity to say 'no'.

First, a sociological systems theory approach will be used to explain by which means – first and foremost the Internet – the 'no' is being articulated as a form of socio-political protest, presumably forestalling consensus. Current research seems to imply that the Internet has given a new quality or even identity to protest groups by making it easier to say 'no' without having to offer debate or compromise. Thus, the 'no' is said to become a means and, at the same time, an end in itself by creating and sustaining the relevance of protest movements without solution-oriented communication.

In a second part, we will discuss why the 'no' provides for an excellent communications strategy without resorting to normatively-burdened interpretations of the 'dangers' of the Internet, presumably reducing content-related debates. Thus, the description and theoretical explanation of saying 'no' in a communicative relationship is meant to give the impulse for a methodological change of perspective, namely from a collectivistic-essentialist one to an individualistic-hypothetical approach. With the help of such an approach driven by economic theory, the decision in favor of protest and against the alternative, namely striving for consensus, can be explained as rational choice among options for action by interest groups which merely want to realize their interests.

Blinding out differentiated content, denying constructive forms of communication and concentrating one's efforts on defaming the opponent by means of mass media and Internet communication will be - speaking from a decision theory viewpoint - illustrated as

a rational strategy, by which one's own interests can conjecturally be realized most successfully under certain conditions. The choice of the right strategy depends on circumstances; not necessarily is the logical consequence that the protest groups involved are primarily uninterested in a content-related debate – as the systems theory approach might suggest. However, understanding the 'no' not as an essentialist, identity-creating part of a protest movement, but as a mere rational strategy for the time being, changing circumstances can contribute to giving up a strategy of protest in favor of a consensus-oriented communication strategy; this becomes more likely the more successfully the strategy of protest has been working.

Saying 'no' as a 'parasitic relationship': a systems theory approach

When declining a real or imaginary offer of communication, two different purposes can be discerned: On the one hand, there is the interested 'no', which can be assumed to have an interest in solving a conflict (and which we explicitly want to exclude from the discussion to follow). On the other hand, there is a second observable form of conflict, the distinctive 'no'. As systems theory describes it, the latter is more a way to safeguard one's own existence as an actor than to make a meaningful contribution; it is a means and an end in itself. Above all else, the protest group is interested in keeping up their raison d'être as organization through suitable topics of conflict. The following discussion will shed light on the idea that the Internet is said to substantiate such behavior in a qualitatively new way.

Particularly on the Internet, one can observe more and more creative forms of communication that do not follow the idea of understanding. The routing difference of an actor (individuals or groups), through which he or she seeks to differentiate himself from his surroundings and through which he or she seeks to establish his or her identity, often lies in conflict and the communication of non-consensus-oriented dismay. The internal structure of the controversy per se is not an issue, and neither is the outcome of the decision about the conflict at stake. On the contrary, being in disagreement is critical in itself.

The indicator for success of a protest movement is social resonance. The mass media share this same interest. They are interested in conflict, even though they successfully create the appearance to advocate consensus. However, consensus is a less interesting news factor – and, therefore, not a subject of interest. This way, political projects – thus the criticism regarding the 'no' on the Internet – exist more and more often without any fathomable 'real' equivalent; protest on the Internet, interpreted as strategy to conquer publicness, is said to replace content-related controversy over an issue (Bieber 1999: 93).

Protest movements can rely on collective concernment (Stephan 1994). It is especially this collective dimension of protest - directed 'against' something without necessarily having to offer a position 'in favor of' something - which guarantees public awareness for mass media and protest groups. Protest initiatives such as www.McSpotlight.org have institutionalized and generalized concernment of the public. This might not serve an actual concern, but on the other hand, justifies the existence of the protest movement in general. 'Good reasons' for concernment and an 'adversary' can always be found.

Eventually, protest provides a form of oral communication, differentiating between 'good' and 'evil' and, thereby, between respect and disregard or even contempt (Luhmann 1990). The assertiveness of a protest group depends upon its expertise regarding the symbolic value of conflicting issues in the mass media and, first and foremost, on the Internet, thus establishing their suitability for campaigns and their right to set up sequences of protest. Producing 'moral shocks' depends on including the protest in the existing framework of meaning; prominent issues, brands, people, political groups or corporate bodies need to be found in order to fulfill their function as 'opponents'. Thereby, moral communication does not differentiate, but is aimed at the entire person, the entire company or an entire (political) party.

Therefore, with the help of the distinctive 'no' which is not directed towards the resolution of the conflict, unknown protest movements are described as trying to acquire a connection to the sphere of socio-political decision making by attempting to articulate themselves in the public area of the Internet (Baringhorst 1997: 197). By way of saying 'no', it is possible to strategically create publicness and to reach a dominant position in the public world of the web. This strategically-compounded publicness (Baringhorst 1997: 57)

turns aggressively against other actors and seeks to instrumentalize and exploit their prominent position for one's own goals. Protest campaigns take over the existing structure of the public sphere by adapting to the units of interest as major stakeholders of public awareness (for instance political parties or companies); these form option space of communication, also on the Internet, by partitioning it in important and unimportant, heard and unheard (Liebl 2005: 26f).

As attribute to be fulfilled by protest campaigns, some authors (see Kinter 2003: 126f) accentuate the quality of interconnectedness, which they say to be critical for the success of identity building and sustenance of the protest group. Connectedness means being connectable to other issues, but also to the communication of the adversary who might ultimately lose his precedence over the issue at stake. Protest groups, which initially find themselves on the periphery of centers of public awareness - of well-known brands, politicians, parties and so on - use computer-mediated communication to enhance their public visibility. The Internet serves as 'consolidator of communication' with repercussions on the institutional centre, i.e. the 'adversary', by establishing a competing centre out of the communicative periphery by means of a proactive positioning in the public eye of the Internet (Bieber 1999: 54, 84).

ICTs enable a plethora of issue or protest groups to operate without institutional support or structures to mobilize quickly and at low cost leading to "accelerated pluralism" (Pickerill 2004: 172; Gibson et al. 2004). Non-hierarchical forms of their organization via the Net, the sustenance of a nomadic form of power and, eventually, their centre-less organization are hard to target by centre-oriented authorities. Thus, the containability of activists' concerns and of the publicity of protesters is severely reduced through ICTs (Pickerill 2004: 184f). The Internet alleviates dissent, the 'no', by its pervasive and written appearance. On the one hand, on the Internet, communicated statements remain available and (re-)usable for a long time. On the other hand - as is shown by the phenomenon of the web log – the sustenance of the 'no' by ever new forms of the protest argument becomes easier as well. (On the advantages of the Internet regarding mobilization and (guerilla) methods, see Liebl 2000; Liebl et al. 2005; Gibson et al. 2004; Pickerill 2003; Samuel 2004).

Eventually, the protest group strives to create a net-internal reputation at the expense of the 'adversary' as a result of attention, acceptance and concentration / densification, building upon the 'no' as the protest movements' communicative offer; credibility and respectability are the goals of the protest organizations, which deliberately employ and use tendencies of popularization and commercialization. The leadership of the protest group needs to demonstrate to policy makers that the group's issue positions are shared by others. Therefore, Usenet groups and chat rooms are incorporated into mobilization strategies in order to proliferate information to those who are supposed to constitute the protest group's body, its identity. In addition, winning over mass media as an audience in its own right is critical (Davis 1999: 66, 78). The collective capital, which the protest group strives for, consists in the attention of the public (Bieber 1999: 179).

According to systems theory, conflict acquires a system-constitutive role via the distinctive 'no' (Luhmann). The solution of the conflict would eventually lead to a paradox, namely the self-dissolution / exclusion of the 'no'-saying actors. One owes one's own identity to the 'yes' of the opposite actor towards the communicative situation; in this respect, the relationship can be understood to be a 'parasitic' one (Serres 1987). Persistent confrontation is the desired result, whereby the principle of opposition will necessarily be decoupled from any concrete situation and topic which might have originally elicited confrontation.

Certainly, one could leave it at that and cynically define the communication offers of internet blogs and campaigns as a strategy to obtain a position of persistent and stable prominence at the expense of others without having to get involved into a content-related dispute. The Internet seems to support this form of self-perpetuating identity via negative communication. Positively speaking, the goal of the 'no'-saying protest would merely lie in revealing the lacking neutrality of the dominant system of meanings by resistance to those influencing the dominant logic of society (Pickerill 2003: 26) without having to offer separate content. Negatively interpreted and as some authors point out (Liebl et al. 2005; Liebl 2000; Serres 1987), 'no'-campaigns do not have any other goal apart from 'parasitic' self-preservation; this approach precludes the idea of reaching content-related added

value, for instance in form of a compromise of the conflicting parties. Protest, facilitated by the opportunities of the Internet, would remain a means and an end in itself merely to foster the identity of the protest movements. Moreover, this is exactly what protest movements on the Internet are increasingly suspected of: namely of using artificially-created conflict potential strategically as proof for and guarantee of their existence, thus establishing a communicative, identity-building relationship at the expense of their opponents as an end in itself – without having to be afraid to be facing the opponent in the 'real world' (Liebl et al. 2005: 25).

Saying 'no' as rational strategy of communication

So far, the question has not been answered as to why protest groups sometimes deny consensus-oriented communication and use the – compared to other media – pervasive opportunities of the Internet for their purposes; and why they sometimes do not. Do they refuse to create consensus because they rebel heroically against the characteristics of a presumably malevolent system, or because consensus would question their existence per se? Regarded from the methodological standpoint of an economist, these answers seem to be as obscure as the normative assumption mentioned at the beginning of this paper, namely that the moral or normative purpose of communication is thought to consist in the creation of consensus.

In the following analysis, we will show that the Internet does not change or give a new quality to the strategic approach of protest groups or might even be responsible for their perpetual existence, but that – in a functional sense – nothing has changed: organizations try to make the most profit out of their communicative opportunities as they always have, independent of the medium; the question of 'how' protest movements use the media in order to say 'no' is considered to be less important than 'why' they sometimes, but not always, do it. Therefore, the so-called 'parasitic' quality of saying 'no' can no longer be considered to be an end in itself, but only a strategic means to a rational end.

Theoretical introduction

The starting point of modern economic thought is – radically abridged and summarized – the assumption that individual actors have interests, which they seek to realize by means of the scarce resources at hand. In this context, communication can be interpreted as a means to realize the actors' interests. Whether the goal consists in, for instance, overpowering the 'system', shouldering the rulers from their thrones, impeding the construction of a belt-way, saving the whales or simply augmenting the circle of supporters for one's own protest movement, is entirely irrelevant.

Thus, the economic approach is radically different from the world of ideas of systems and communication theory; therefore, a methodological clarification is indispensable. The economic way of thinking is, to a high degree, 'hypothetical'. It is based on abstract concepts, which are supposed to help explain 'reality' or parts thereof. The idea of an individual, acting rationally and in a self-interested way, represents such an assumption regarding 'the real world'. Generally speaking, according to Karl Pribram, the history of economic thought can be considered as an ongoing dispute between essentialist versus hypothetical patterns of theoretical thinking, while the hypothetical point of view has successively prevailed.

Essentialist thinking is characterized by the understanding that, given a certain historical or mental context of valid terminological concepts, insights into the essence of things and events can be gained. Modern economics like any other hypothetical school of thought will deny the existence of these concepts. All theoretical concepts and categories are rather based on assumptions. These assumptions are considered to be valid if it is possible to establish causal or functional relations between empirical phenomena by means of theoretical laws, logically deduced from these assumptions (Pribram 1998: 1107ff). Due to their hypothetical character, theoretical models in economics cannot be directly tested in reality. However, they are valid, given a valid deduction from the premises (Menger 1969: 41ff). Hypothetical thinking - as is typical for the economic approach – tries to explain the world with the help of hypothetical models of empirical reality.

The economic approach is methodological-individualistic. Macroscopic actors like organizations don't exist independent of individuals acting in them. What from a holistic

point of view might be identified as the actions of a macro-actor is, in fact, the result of individual and 'rational' actions of human beings composing this 'macro-actor'.

The methodological starting point of modern, neo-classical economic thought, often criticized by non-economists, is the acting individual. He acts rationally by choosing the best strategy to maximize his subjective utility. Acting means choosing between options. In doing so, the acting individual estimates the expected benefits of an option to act and compares these benefits to the expected costs of this action. He will then choose the utility-maximizing option to act. The nature of circumstances of these decisions doesn't affect this basic concept of acting. In principle, this model of an actor maximizing his utility is applicable to all kinds of human action, since this logic of action is considered to be constant and universally valid. However, this basic assumption can by no means be equated with the idea that the rationally acting individual remains unaffected by external circumstances. The only constant is the logic of individual action (Heap et al. 1992: 87ff; Heinemann 1999: 33).

In rational choice theory, which is the base of the economic approach, individuals are acting under the condition of incomplete information, i.e. under risk and uncertainty. Therefore, rational actions are not necessarily optimal from the point of view of an omniscient external observer. They are merely situationally rational (Schweinsberg 1998: 4ff) and – in a neoclassical interpretation – considered to be the optimal way of acting for an individual actor, constrained by the information and knowledge available to the individual. However, the situational knowledge is the optimum that can be acquired under the given circumstances (Elster 1986: 16; Heinemann 1999: 42).

Overall, four different basic axioms of the neoclassic-economic approach can be identified, which are closely interwoven. The first axiom is its radical methodological individualism; therefore, all appearances on a macro-level can be described as a result of individual actions. Second, the individual actions have their origin in the purposive-rational aspiration of actors to realize their goals by employing minimal means in order to maximize their benefits. Third, the goals of actors as well as their preferences are assumed to be constant; this implies that, in principle, actions are predictable and assessable whenever the preferences of an individual actor are known. Fourth, the actions themselves are to be considered as a choice between options, be it the choice of the optimally-suited or rational strategy to reach a goal, or be it the choice of the optimally reachable goal with the means given, i.e. the most preferred goal. Thus, actions are the result of the choice of the one option to act, which maximizes the benefit for the individual actor. In economic theory, individuals are interacting on markets where they exchange goods or property rights. Interacting on perfect markets, the rational actions of all 'homines oeconomici' will lead to a situation where it is impossible to rearrange the allocation of resources in such a way that at least one actor improves his utility without worsening another actor's utility. This Pareto-optimal point is the so-called market-equilibrium neoclassical economists are always referring to.

Saying 'no' as utility-maximizing strategy

Applying the economic approach to our initial question of why protest groups sometimes choose consensus-denying communication strategies on the Internet, this choice can be interpreted as the subjectively best strategy for a protest organization to realize its interests. The economic approach was developed in order to explain market behavior, but the various transactions and interactions between a protest organization, the recipient of the protest, and the public can't be described in terms of a perfect market, which is the theoretical heart of neoclassical economics. A theoretical framework that can explain the behavior of protest groups must therefore deal with non-market situations. A rather complete attempt to explain non-market behavior of rational actors is the approach of James S. Coleman. The following explanation, why saying 'no' is a rational strategy for a protest group to achieve their goals, is mainly based on his Foundations of Social Theory (Coleman 1991-1994).

First of all, we axiomatically assume that protest campaigns do follow a goal. By their protest, they want to induce somebody to either exert an action or to abstain from doing so. The goal can, for instance, consist in making a government rethink its given right to send troops abroad - as has been happening with various anti-war websites using diverse

means of disqualifying the government decisions on this issue, for instance with FUD strategies on the Internet; or in convincing companies to refrain from employing child labor when producing their goods - as the internet-led Clean Clothes Campaign did by refraining from dialogue until their demands were met. In the first example, a political collective decision is supposed to be influenced, in the second an individual, private or entrepreneurial decision is at stake.

In either case, an actor is to be persuaded to act in the interest of another actor. Supposing that any actor can determine his actions uninfluenced by others – as is the case on a free market – an actor will only be acting in another's interest if he or she is compensated. All voluntary transactions on the market of goods and services work according to this principle. The one actor wants to acquire a good from the other actor. The other actor will only transfer the good if he or she gets something in return. In the case of barter, this 'something' can be another good. In modern markets for goods and services, it will most likely be money.

However, protest campaigns want something slightly different from the addressee of their protest. They do not want one resource in exchange for another; they want to attain control over the opponent's actions without having to compensate the adversary. A fictitious example would be a campaign where a protest movement wants to make a garment and apparel company stop its distribution because the clothes were produced by children in the Third World. In principle, the addressee of the protest, i.e. the trading company, is free in terms of their choice of producer.

The interest of the protest movement lies in the abolishment of child labor. Therefore, the company the campaign is directed against is to be convinced to discontinue buying and merchandising such goods. Thus, the trading company is supposed to be acting in the interest of the protest group. In this way, the company has to transfer its right to choose its trading partners to the protest group, which seeks to restrict this right. However, assuming the initial right of any actor to control his own actions, the addressee of the protest must proactively transfer its individual right to the protest group. By such a unilateral transfer of control rights an authority relation is established (see Coleman 1991-1994, Chap. 4).

In general, protest groups do not have the power to extort a relationship of dominance or authority. Therefore, the addressee of the protest must assign its control rights on a voluntary basis. In such a case of voluntary transfer, James S. Coleman differentiates between conjoint and disjoint authoritative relationships founded by this transaction. In the case of a conjoint authority relation, rational actors transfer their right to control their own actions to another actor, because they assume that both actors' interests are congruent. Thus, they transfer the control right in anticipation of improving their condition. Conjoint authority relations accrue from the unilateral transfer of control rights. In the case of disjoint authoritative relations, the expected congruence of interests does not exist. Control rights are only transferred if compensation takes place, for instance by providing one's labor in exchange for payment.

However, protest campaigns do not want to grant compensation in order to let the addressee of the protest act in accordance with their own interests. On the contrary, they want their opponents to quasi voluntarily and unilaterally transfer their rights to control their own actions. The addressees of the protest, however, will not readily do so, while protest campaigns do not have the power over their addressees to claim alleged control rights. Otherwise, they would not resort to the means of protest in order to reach their goals.

When protesting against intended actions of the 'government' or in order to make the government act, this is not to be interpreted as trying to capture control rights over another party's actions, but to recapture one's own control rights about one's own actions. Government – whether democratically legitimized or not – can be interpreted in terms of a unilateral transfer of the citizens' control rights over their own actions unto a government actor. In this sense, the institutional-economic explanation of statehood is similar to contract theory in political philosophy.

When, for instance, the government of a state decides for military engagement, for instance in the Greater Middle East, they make use of their right to do so transferred upon them by all citizens of this state. When a group of citizens wants to prevent this military engagement, they call in question the initial transfer of control rights to the government.

They aim at revising this initial transfer of rights. However, the government had opted for this military engagement on account of the expected benefits, be they fighting terrorism or restoring peace. The citizens, organized in a pacifist protest group, therefore have to force the government to revise its decision. This will not happen, though, due to the lack of power of the protest group – just as is the case with a protest group against a private company. In more simple terms, the retro-transfer of control rights can be seen to be identical with the transfer of control rights in the first place. The difference between protest against a company and against a government actor merely consists in the different distribution of rights to act.

Eventually, protest groups – no matter whether their protest is directed against a government or a private actor –aim at establishing an authority relation. They want to make another actor act in their interest without having to grant compensation. They do not have the power to enforce the transfer of control rights and are dependent upon the voluntary transfer by the addressee of their protest. Under this condition, any strategy appears to be hopeless. Protest groups cannot enforce anything, and the opponent has no interest in capitulating in this matter. There are protest campaigns that resort to violence in order to build up an authority relation. Especially with protest directed against government actors, a plethora of such examples can be found; the bandwidth of violence ranges from blockades, violence against tangible property, terrorist attacks, to terror against the civilian population.

However, as harmful as supposedly non-violent and not explicitly violent strategies such as cultural hacking, guerrilla methods directed, for instance, against websites, or the mere expression of protest on the Internet, might appear to its addressees, they can indeed be successful. The protest of a group of pacifists against military engagement can lead to bringing the troops back, although the government is much more powerful than the protest group and had the initial right to deploy troops. The protest against a trading company merchandising goods produced by children can make the company exclude such producers, even though, at first sight, the protest campaign does not have power over the company. Why does protest still appear to be a promising strategy in order to obtain the voluntary transfer of control rights over the opponent's actions by the opponent himself? The answer is relatively simple if a mutual interdependence of all actions is assumed. That is to say that the protest expressed can influence the decisions of other individuals in other market or non-market relationships with the opponent of the protest.

In a democratic state, for example, the government derives its legitimation from the will of the citizens ruled by it. By electing their political representatives, the citizens are transferring the right to control their own actions in certain areas. By agreeing to the institutional foundations of democratic government, i.e. the principle of majority, those citizens who did not vote or voted for somebody else also transfer control rights onto the winners of the election. This transfer of control rights, however, happened on the assumption of congruent interests (see above). Therefore, the transfer of control rights is based on the condition that the political representatives act in the interest of the citizens. The citizens agree to the transfer in the expectation of this congruency. Expectations, however, are different from proven knowledge. When voting, the citizens had to make a decision without secure knowledge about the future and without reliable information with which to weigh the chances against the risks of such a decision. In addition, they cannot assume to be able to reclaim the damage done by their political representatives when their expectations are not fulfilled. They hand over their trust to the elected representatives in the expectation that these act in accordance with the voters' interests. It is only in the future that they can be certain whether their electoral decision was right or wrong. It is decided only in the future whether the elected people fulfill or forfeit the trust of their voters.

Eventually, authority relations are based on granted trust. The citizens must trust because they lack secure knowledge about the future actions of the people they want to transfer their control rights to. Trust consists in explicit and tacit knowledge and information about the probability of future actions. Trust can be lived up to; trust can also be forfeited, and it is exactly at this point where protest campaigns directed against government actors can attack. With their protest, they do not directly approach the

government actor, but the public. They turn to all citizens who all trust their elected representatives to act in their interest. Protest movements try to make it obvious for any citizen that an assumed congruency of interest does not exist any more and that, thus, the foundation for the transfer of control rights no longer persists. They try to bring to mind that the elected government representatives have forfeited the trust they were bestowed. If they are successful, the government will have to stop its military engagement in order to rebuild the endangered trust and to ensure their re-election.

Protest campaigns can use a similar mechanism when acting against non-governmental actors such as, for example, companies. They also try to influence the relationship of trust between the company and its business partners. According to neoclassical models, actors in the market possess complete information regarding their own preferences as well as regarding the options of others to act. In addition, all transactions are assumed to take place in the absence of time. In 'real' markets, these ideal conditions will not be found. Nobody is omniscient; information gathering creates costs; oftentimes, the available information is not sufficient to undertake a probabilistic risk assessment. Furthermore, all transactions imply a time component. Thus in many situations, the transaction partners do not know enough about each other in order to decide about the exchange of resources or rights without any risk. The goods delivered might not meet expectations; they can get lost on the way; or the customer might not pay the price agreed upon.

Oftentimes, the necessary knowledge to make a rational decision is lacking. Any decision, therefore, is afflicted with risk. Frequently, this risk is incalculable or can only be calculated at great expense. Risk assessments are costly, and they are often irrational for customers. It makes much more sense to rely on one's own experiences from the past and on the experiences of a third party. Thus, consumers can make use of some kind of institutionalized knowledge in order to evaluate the reliability of their transaction partners and to lower their uncertainties. When the probable benefit of the transaction is larger than the risk that can be described with the help of institutional knowledge, the transaction will proceed. The transaction partners grant each other trust.

Trust plays an important role in decision-making situations where the risk of an action depends upon the performance of another actor. This especially applies to decision-making situations outside of 'perfect' economic markets such as, for instance, in the field of politics. As in the example above, citizens as trustors grant trust to the political representatives they elected. These trustees are selfishly interested in not losing this trust and, therefore, will act in the interest of their voters. As already described, a protest group can use this mechanism in order to try to sow the seeds of discord and, thus, to force the political actors to realize the interests of the protest group.

In economic markets, consumers need to trust their transaction partners due to the inadequacy of available knowledge. Only then are rational decisions possible. The trustors will acquire resources from those transaction partners who appear to be most trustworthy. In this way, the trustors minimize the risk of making a mistake. Trust is based on the institutionalized knowledge regarding the reliability of actors to act as expected. In economic markets, companies act to build trust and to maintain it out of their own interest. Otherwise, they would lose customers and endanger their economic existence. Protest campaigns against business companies can indeed be successful whenever they manage to raise doubts about the trustworthiness of the company on the part of the consumer.

In the case of the example above, two possible ways are conceivable why such a protest might be successful. First, the protest campaign generally spreads the information that the products of the company under scrutiny are manufactured by children, which is thought to be morally reprehensible. However, when a company offends against moral principles, the consumers' risk will appear to be higher since the company might not keep its initial promise. The company loses consumers' trust and has to revise its business policies in order to limit the damage. Second, the protest campaign might only make the consumers aware of their preferences and, thus, directly influence the basis of trust, which is the assumption that the transaction partner will fulfill their interests. In this sense, the protest campaign will create awareness of a possible need of the consumers, for instance to protect children from exploitation through labor. In this case, it does not lie in the consumers' interest any more to support child labor though acquiring the respective goods

and services; the allocation of trust towards our exemplary clothes trading company becomes obsolete.

Both kinds of explanation are economic interpretations of the mode of action of marketing and advertisement. The first is based on the neoclassic view of human action and stresses the fact that campaigns transport information in order to influence decisions in one direction or another. The second derives from the tradition of the Austrian School of economics and aims at establishing, creating awareness for and influencing subjective needs on the side of the consumers. "It is a way of alerting people to their own tastes." (Heap et al. 1992: 56; see Kirzner 1973: 136)

By being forced to discontinue the merchandising of goods manufactured through child labor with the aim of keeping its clients, the company complies with the demands of the protest campaign. This means that the company has unilaterally transferred control rights on the campaign as far as the choice of their suppliers is concerned.

With their communication strategy on the Internet, protest groups appeal to the public in order to make a third party – i.e. the addressee of their protest – transfer control rights onto the protest group. The addressee might be a private company or a government actor. In both cases, the foundations for the trustor (citizen or consumer) giving trust to the trustee (politician or entrepreneur) need to be changed in a way that the initial trust is questioned and, thus, the trustor is forced to act in the interest of the protest campaign.

All protest campaigns have a content-related goal. Different communication strategies are possible to realize that goal. First of all, a protest group might appeal to the public in a consensus-oriented way and publicly offer the opponent the opportunity to dialogue in order to create a balance of interests. Second, a protest group can also formulate a maximal claim and, in this sense, express its 'no' distinctively against something or demand something specific by saying 'yes'. In the second scenario, compromise is foreclosed. In any case, the ultimate goal is achieving the maximum. The choice of the most promising strategy depends among other things upon the trustworthiness of the protest campaign.

Protest can undermine a relationship of trust between transaction partners. However, such a strategy is only successful if the knowledge, communicated by the protest campaign, is in itself trustworthy. The allocation of trust is founded in institutionalized knowledge regarding the reliability of the trustee to act in the interest of the trustor. Therefore, the reliability of a protest campaign is based on the quality of the knowledge provided for, which 'the public' uses for orientation. Trust relies on – as already described – institutional knowledge. Parts of this knowledge are also the experiences of others. When the source of the knowledge provided for is a large or well-known organization, the truthfulness of this knowledge will be considered to be high; therefore, the probability is high that this knowledge will influence future behavior. When, for instance, on its website, the national weather service warns of a heavy storm, people usually pay attention. On the contrary, when the high priest of an obscure sect warns of the oncoming end of the world via the same medium, only few people will believe him.

When protest campaigns want to influence others' actions, they need to be trustworthy. Therefore, their goal must be to enhance the number of those who attest them credibility and make decisions according to the knowledge offered. Especially when protest campaigns are initiated or supported by big organizations, they are attested to be trustworthy and the knowledge they communicate is considered to be reliable; insofar, such campaigns have likely success in sight. When, for instance, an international relief organization denounces the distribution of goods manufactured by children, the business practices of the company will more likely be changed, as would be the case with a campaign led by people unknown. There is a greater chance that seeded doubt about somebody else's trustworthiness will remain if the source of this doubt is itself trustworthy.

With their individual decision to trust a trustee such as a protest campaign, the trustors relate the probable trustworthiness of the trustee to the possible benefit of the trustee fulfilling its promises or forfeiting trust. This means that the benefit promise of the trustee to the trustor must be all the higher the smaller the trustworthiness is. Therefore, an impostor (on the Internet) must promise a much higher profit in order to maintain trust. The like is true for protest campaigns on the Internet.

In our not so fictitious example of protest against unclean clothes, a protest campaign must communicate to its 'clients' or target groups a high moral benefit gained out

of boycotting the company using products where child labor was involved when the campaign itself does not have an initial reputation, when it has no 'name', when it is not well-known as a reliable Internet source. If the protest campaign strived for a consensus-oriented communication strategy in order to balance its interests with those of the company, it would a priori reduce any possible benefit promised to the public. Such a protest organization is well-advised to refuse any consensus-oriented communication. Therefore, the distinctive 'no' is a rational strategy to create trust and, thus, to create a circle of supporters.

However, when, in the same example, a protest movement with high reputation on the web starts a campaign against the same company, the protest campaign might as well choose a consensus-oriented strategy. In order that the knowledge communicated by the campaign can influence the actions of the public, the promised 'moral' benefit may be notably smaller than in the case of the less trustworthy and lesser known campaigners. Campaigns, supported or organized by trustworthy organizations or people, can choose a consensus-oriented communication strategy over a consensus-refusing one, albeit there is no compulsion to decide in favor of a consensus-oriented strategy.

Consensus-refusing communication strategies make sense especially for those protest campaigns which still need to build up their trustworthiness. The same holds true for campaigns carried out by organizations with good reputation. In this context, consensus-oriented strategies seem to be especially advisable either whenever the campaign has already created a high degree of trust or whenever there remains a certain risk that the maximum demands will not be complied with.

The mechanism described, namely how protest campaigns - via the provision of knowledge – influence individual decisions about entering trustful relationships or refraining from doing so, is, in principle, independent of the medium of communication. The goal of the campaign, which is to acquire control rights over the actions of a private entrepreneur or a political actor, can possibly be reached by any means of communication. However, the Internet as a 'mass medium' can be easily used for political campaigns (as was described in the first part of this paper). On the Internet, protest campaigns without a big circle of supporters and without the necessary financial resources - as they would be necessary for a classical advertising campaign – can still communicate their protest to a broad public. However, this accessibility of the Internet for anybody who wants to publish makes it rather difficult for the consumer of the communicative offer to assess the trustworthiness of the information provider. Therefore, protest campaigns on the Internet are especially dependent upon generating trustworthiness. Independent of other conceivable options to artificially enhance one's trustworthiness, the use of a consensus-refusing communication strategy is a promising way to realize one's goals.

Conclusion

The contraposition of two different approaches to the phenomenon of consensus-denying campaigns on the Internet shows that, when choosing an appropriate theoretical framework, the analysis does not have to end with describing protest campaigns as parasitic means for creating and maintaining one's identity as an end in itself. Economically speaking, the 'no' is nothing but a strategy perfectly suited for rapidly creating trustworthiness and, thus, giving power to a protest campaign in order to realize an absolute or relative maximum of its goals in the long run. Either the addressee of the distinctively communicated 'no' fulfils the demands or is at least ready to arrive at a compromise. However, this implies that at some point, the expected benefit of the communication strategy of saying 'no' may become smaller than the benefit to be expected from a consensus-oriented strategy. It is exactly at this point that there are strong incentives for a protest movement to reconsider the distinctive 'no' as strategic approach.

Due to its depth of analysis, the economic approach possesses the additional advantage of being able to develop possible counterstrategies which the addressees of a distinctive 'no' might be able to apply through an appropriate communication policy. Taking the basic assumptions regarding preferences and circumstances of action for granted, the idea of rationality makes the actions of the protest groups in any given situation appear predictable and calculable. Counterstrategies therefore should launch into exacerbating the creation of trust on the part of the protest group. The ultimate goal is not

consensus or the realization of other aesthetic conceptualities, but the achievement of entrepreneurial profit in the market dealing with interpretation and concepts, which, in turn, can indeed influence other markets, for instance the market of goods and services. The issue at stake is the crowding out of inefficient business models on the one hand, and that of inefficiently working entrepreneurs for the sake of the consumer on the other hand.

The Internet is but one possible means to implement one's economically rational purpose of action and to achieve interpretative supremacy. The options of the Internet are not the reason for a 'no' strategy considered to be (morally) inferior to an intense dialogue or, even worse, a means of self-referentially keeping up one's identity in cyberspace - as the systems theory approach implies -, but only an additional means to use the 'no' for rational reasons. However, for the reasons given in the first part of the paper dealing with the systems theory approach and the successfulness of Internet-adapted protest movements, the Internet seems to be a medium which brings along the requirements to enforce utility-maximizing protest campaigns in a fast and effective way. The logic of the model of an actor refusing consensus, the addressee of a distinctive 'no', the role of the public, 'power' and influence, can be considered to be universally applicable to communication policy; the Internet provides for a new medium, but not a qualitatively new strategy. It can be applied to a 'heretic' monk nailing his 'no' onto the door of a church; to the bearers of red flags in the month of October that was actually a November; or to the Internet in the hands of Attac. This is the beauty of an economic approach.

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Hyperlocality and the tyranny of nodes

Ulises Ali Mejias

A defining characteristic of networked sociality is the overcoming of physical space. Information and communication technologies (ICT's) have allowed social groups to shift from densely-knit location-based communities to sparsely-knit networks unbound to any specific physical space. Thus, the network introduced what has been heralded as the 'death of distance.' But we have seen recently a return to a concern with the local. Accessible, low-cost, and mobile technologies promise to deliver a form of 'hyperlocality' that re-connects us to our immediate surroundings in supposedly more meaningful ways. But what biases does the hyperlocal exhibit? When social relevance is defined in terms of presence within the network, what we have is a shift from physical proximity to informational availability as the defining feature of 'nearness.' Thus, the network actualizes a form of epistemological exclusivity that can only 'see' nodes. In this presentation, I intend to explore how hyperlocality works to render as near only those elements in our environment that are available through the network, and obscures what lies in the interstices.

NETWORKING AND SOCIAL LIFE

Acting Out Network: Self-destructive Murmurs in the Blogosphere

Yukari Seko

Introduction

To disclose or not to disclose? That may no longer be a question for those living in the era of online self-expression. Never before have we seen so many people speak about their private affairs in the cyber public; anecdotal accounts of day-to-day experiences, social commentaries, personal rants, prose, poems, even taboo-braking contemplations of suicide or self-injury (SI) are now publishable on the Internet from the comfort of home with the click of a button. Specific features of online communication – such as greater anonymity, the lack of physical cues and distance, and one's greater control over time and pace of interactions (McKenna and Bargh, 2000) – encourage those with socially-marginalized interests to disclose their emotional struggle in cyber public space. As recent studies have reported, socially sensitive topics like homosexuality (Campbell, 2004), anorexic nervosa (Dias, 2003) self-harm (Whitlock et al, 2006, Prasad and Owen, 2001), and suicide (Barak and Miron, 2005) are indeed practices around which many virtual communities have formed. While some scholars emphasize the positive health potential of online interactions for suicide prevention (Mehlum, 2000) and for indirect therapy (Miller and Gergen, 1998), through which otherwise isolated individuals may find a source of self-help and mutual support, the growth of self-destructive (SD) information on the Internet has evoked huge social anxiety. Observing the "proliferation" of SD-related narratives including death notes, appointments for group suicides and explicit instructions about committing suicide and self-harm, a number of Internet critics highlight the dangers of negative triggering and contagion effects of such online discourses (For instance, Becker, et al. 2004, Richard et al. 2000). Although the question of whether such SD-related cyberspaces exacerbate or alleviate one's SD desires still remains open and unresolved, online SD discourses are often viewed as harmful "agitators" that stimulate vulnerable individuals to put desires into practice.

Arguably, current debates around online SD narratives – both pros and cons alike – center their attention on the effects of communicative dialogues within interactive circumstances, rather than the implications of self-disclosing by the writers themselves. Compared to the research of dialogical, interactive cyberspace, the study of self-centered, monological online discourse is still nascent. However, to fully grasp the social and psychological implications of SD discourses online, it is crucial to understand 1) how vulnerable individuals utilize monological online platforms to disclose their maladaptive identity and 2) how their self-disclosures sequentially facilitate networking with like-minded others. Regarding specific characteristics of online self-documentation, this paper first the discusses that monological practice of online self-disclosure – that I metaphorically describe as murmuring online – which enables authors with SD desires to subjectively experiment an online mode of "acting out." Unlike those who intend to express their feelings through ongoing interactions, self-documenters who subjectively record their emotional ebb and flow in their own spaces might not always seek actual interlocutors. Rather, they are motivated storytellers who adapt online portals as another medium of self-presentation and representation when engaging in a deconstruction and reconstruction of the self.

This paper then explicates unique characteristics of weblogs (blogs) in comparison with other self-centered online platforms – such as personal homepages and recent user-generated portals, Social Networking Services (SNSs) – as well as conventional diaries. As a

murmuring medium, blogs have constituted a unique genre in the practice of online self-expression. While a variety of "social" uses of blogs – as community discussion boards, as news bulletins, or as political campaigns – have been reported (Bruns and Jacobs, 2006), the majority of blogs are personal online diaries in which authors chronicle their everyday life for public consumption. Given "protected spaces" (Gumbrecht, 2004), bloggers enjoy greater authenticity and control over content than do participants in interactive forums. Nevertheless, blogging is essentially different from the centuries-old practice of diary writing. Since a blog always requires the process of "publication" that makes one's self-exposure readily available to public readers, it is certainly possible for bloggers to form dialogues with anonymous comrades and critics, something which conventional diarists have never dreamed of. Meanwhile, although the practice of diary writing is gradually integrated into other personal platforms like SNS, the user-oriented interactivity of a blog still distinguishes it from its counterpart. While for SNS users diary writing is not central to their activities but one of various options with which they extend their social networks, logging is the very reason for bloggers' inhabitancy of cyberspace. When a blogger stops logging, his/her discursive activity and sequential interaction sooner or later reaches its own oblivion. Thus, in opposition to SNS type "built-in" functions, a blog's "networkability" is a secondary feature which ultimately depends on a blogger's perception of the networked space.

Aiming to investigate how the practice of murmuring in the blogosphere facilitates acting out online and constitutes network formation between self-documenters and readers, the final part of this paper reports on the results of an empirical study of grass-roots networks emerging around a SD blog. Regarding unique characteristics of blogs; monologue-oriented but potentially dialogical, the presented study aims to map the friendship network of one SD blogger by identifying whom comments on which entry and from where. In so doing, this study pays special attention to commentators' self-reported interests in SD behavior and their relationship with the author both online and offline. The findings suggest that the blogger's real-life friendship is extended to the virtual sphere involving both offline comrades and online-only readers. Within this semi-public space, the blogger's self-identification as "the SD individual" significantly contributed to involvement of online-only readers who share the same interests with the author. Additionally, observational analysis of sequential interaction between the blogger and commentators shows that the subject tends to formulate more compassionate, sympathetic and intimate relationship with SD readers who share the same interpretation of self-destruction as a practical means of releasing emotional struggles.

Acting out through "murmuring" online

The recent increase of user-friendly platforms of self-documentation, such as personal homepages, blogs, online diaries and SNSs, have beckoned numerous nonprofessional producers to the construction of the "private" sphere within the public environment of cyberspace. The current proliferation of "home on the web" (Zalis, 2003) can be seen as distinct attempts by users to (re)construct spatially-centralized "I" positions along strongly monological lines. Personal cyberspaces usually contain diverse sections such as journals, biographies, creative works, photo galleries, guest books, or favorite links in which the authors speak in different ways about a variety of topics. At first glance, this multiplicity of expressions belonging to particular categories may appear to be an inconsistent activity which hinders the authors' attempts to constitute a coherent "self" as a whole. In contrast, however, these multiple outlets allow the self-documenters to present various facets of their personality *simultaneously on the same page*, thereby creating an integrated mosaic of identity through a variety of documentations of "self" without being inauthentic. The subjects and categories that appear on these personal spaces are ultimately subordinated to the will and the choice of the authors, and thus the owners usually hold more authentic control over the places and activities than participants in communicative cyberspaces. Nevertheless, online self-narrators are not engaged in a solipsistic and narcissistic "solitary performance in virtual space" (Silverstone, 1999). Beneath online modes of self-expression is the tacit recognition that any self-disclosure becomes readily available to the public through the process of "publication," and therefore could be employed as a resource for public scrutiny and consumption. At any given moment when a socially-marginalized

individual documents emotional struggles, depressive feelings, and actual attempts of self-destruction through monological online mediums, there is always a notion of a simultaneous public audience who potentially observe the author's personal trajectory of identity construction.

This hybridized notion of private and public embedded in monological cyberspaces lies behind the impetus of online self-disclosure, which I am metaphorically calling "murmuring" online. Individuals who speak in their monological Web spaces are not "ranting" loudly in order to make the public listen to their statements, nor "mumbling" with an inaudible voice difficult to be heard by anyone. Instead, they are "murmuring" their everyday thoughts and concerns in a soft, quiet, but audible voice to themselves as well as to an anonymous, sometime imaginary, faceless audience connected by an online network. Once again, it is a practical sense of social networking and a clear recognition of the audience behind one's screen (or at least the illusion thereof) that keeps online murmuring meaningful to its practitioners. It is the unique fusion of private authorship and anonymous public readership that enables online self-narrators to whisper both confidentially and publicly about their internal feelings and emotions. Murmuring online is, in this light, inherently personal but doubtlessly social, and thus appears as a performed and situated social action constituted within and through networked social contexts.

Besides blurring the traditional public/private dichotomy, the practice of murmuring online also calls into question the dualistic logic of the "real" and the "virtual" that has long demarcated online activities from offline ones. Although identity deception is still inevitable in any forms of online communication, for those engaged in "virtual" self-documentation the experience often appears very real, meaningful and authentic opposing to conventional and often negative assumption of "virtual reality." When individuals with socially-concealed desires like suicide/SI murmur their pent-up struggles and vulnerable feelings on their personal spaces, these places indeed function as a practical social outlet rather than as a simulated stage of ephemeral virtuality and hallucination. Instead of creating imagined online personae, these online autobiographers are accurately documenting their true – sometime hidden in real life – personalities in a virtual sphere. As Michel Foucault (1978, p. 61) reminds us, the act of confession, the transformation of a social taboo into discourse, somehow paradoxically produces a pure and authentic "truth" beyond quotidian reality. Online murmuring, in this light, allows its practitioners to viscerally experience another mode of reality through amalgamated sense of the "real" and the "virtual."

Moreover, online murmurs are by nature more sustainable than whispers uttered offline, which are repeatedly consumable even after the moment of utterance. All murmurs uploaded online are – unless either the author or the service providers decide to remove or to conceal from the public – automatically preserved in a remote server as digital data that can be retrieved from anywhere, at anytime after the moment of murmuring. The text-oriented nature of online self-expression significantly contributes to this feature of online murmurs; although the concept "murmuring online" does not exclude audiovisual formats, the majority of online self-presentation is still heavily reliant upon textual means (Barak and Miron, 2005). Unlike speech – in which the ephemeral nature of direct verbal expression makes it difficult for both the speakers and the listeners to capture presented emotions and thoughts after the utterance–, writing is a storable expression of an individual's mental state, as it is readily available for the author and prospective readers, and in principle, more durable than speech. Also, as found in several studies (see Pennebaker, Mehl and Niederhoffer, 2003 for a recent review), writing is a more self-conscious way of being that appears to be a more intimate method of disclosure than talking.

It is thus assumed that especially for SD individuals, murmuring online serves not only as a temporal cathartic release of emotional struggles but also as a sequential management of identity. Through murmuring their distressed moods and emotions and looking back through the recorded monograph, vulnerable individuals can repeatedly experience subjective deconstruction and reconstruction of the self. When SD people confess their distressed feelings and thoughts through online venues, they consciously verbalize and externalize their internal struggles which appear as a relatively transparent view of thinking-in-progress. By reading documented murmurs afterwards, the authors flexibly

situate themselves in sequences and patterns and reorganize facts into a meaningful whole which constitutes a single and continuous history. Their own interpretations of SD thoughts and fantasies are then re-integrated into their internal frame of reference, which help them reconceptualize their maladaptive feelings and struggles. In this sense, telling a story about oneself is not merely an intellectual enterprise; rather, in the process of formulating and externalizing a narrative, one constitutes a new understanding of oneself and brings it back to the stage of identity construction. Interpretations, constructions, and explanations are intertwined as they are developed into the narrative and reintegrated into the self. Murmuring online is a continuous, configurational and maturational project of identity building that helps maladaptive persons to work through their unique issues.

From this perspective, some would perceive murmuring SD thoughts online as a form of voluntary disclosure, or the "coming out" of a hidden identity online. Certainly, one's self-identification as "a SD individual" on personal spaces requires a conscious process of projective identification. However, when SD individuals keep on documenting actual self-harming behaviors or suicidal attempts as well as the events that triggered them to carry out these actions, their discursive performances in fact go beyond simple identity-disclosure. Continual and chronic murmuring online is a flexible practice of identity management and thus it should be viewed as "acting out" behavior beyond coming out one's self-determined identity. Here, the original concept of acting out must be expanded to include discursive practice: in clinical circumstances "acting out1" is traditionally defined as "a nonverbal translation of an internal conflict" (Ballak, 1963) including a wide range of impulsive, anti-social behaviors such as delinquency, drug addiction and various psychosomatic illnesses (Rowan, 2000). On the basis of the dialectic between word and action, acting out is generally characterized as "a result of fundamental rift between language and emotion when language fails as a form of communication" (James, 1995). However, as regards the fact that the majority of actions and performances appear as textual forms, the definition of acting out should be extended from physical actions to verbalization of one's actions and behaviors through online mediums. Onlinezation of one's memory of SD action (acting out offline) can be seen as a secondary process of acting out which itself provides a temporal comfort to the individual.

Uniqueness of Blogs as a Murmuring Medium

Among various monological online mediums, blogs get along very well with user's ardent desire for acting out online. At its simplest level, a blog is a live, frequently updated, online personal journal combining texts, images, sometime multimedia documents, presented in reverse chronological order with automated time-stamp or stream-of-consciousness order by the will of the blogger. Besides the autobiographical fields, a blog usually contains an auto-post bulletin board which allows the readers to post their commentaries about specific entries, thereby interacting with the author. With the use of the interlinking and interactive features of blogging, some authors, those who blog with network-oriented hosting services in particular, formulate larger interactive spheres called blog communities2. Blog communities are becoming a categorized cultural zone in which bloggers connect with one another through shared geographical, generational, or interest-based commonalities. In this light, a blog can be viewed as a hybrid of personal diary, biography, bulletin board system, links and community.

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[1] The original concept "acting out" was first introduced by Sigmund Freud in the 1914 paper *Remembering Repeating and Working Through* in which Freud applied this to patients who resisted remembering repressed traumatic events by repeating them in (often disguised) forms of action. In consideration of the complex relationship between memorization and repetition, he argues that "the patient does not remember anything of what he has forgotten and repressed but acts it out. He reproduces it not as a memory but as an action; he repeats it, without, of course, knowing that he is repeating it" (Freud, 1914, p.150). Criticizing current interpretation of this term as "a modality of resistance" or as "an expression of disdain," Rowan (2000) argues that acting out for Freud represents a form of transference driven by the compulsion to repeat. By returning to Freud's original definition, Rowan suggests, psychoanalysts can accurately recognize that acting out has clinical consequences.

[2] Blog community is differentiated from collaborative or multi-authored "community blog." Kumer et al. (2005) define blog community as "a set of blogs linking back and forth to one another's postings while discussing common topics" at shared discussion forum (p.38).

Born in 1997 (Kline and Burstein, 2005), blog growth mushroomed, especially after free, non-HTML-required blog hosting services such as LiveJournal.com and Bloggers.com3 were established later in 1999. These simplified administration interfaces allow for the easy creation and update of blogs by offering automated templates which systematically manage the addition of new article as well as the categorization of the archives. With the aid of such user-friendly web services, the blogosphere continues to boom and as of February 2006, there are approximately 154 million blogs over the Internet (The Blog Herald, 2006).

Just as on its genesis the Internet was expected to bring "a new regime of relations" (Poster, 1995) by decentralizing the apparatus of cultural production, so were blogs lauded as possessing a socially-transformative, democratizing potential. Hailed by numbers of scholars and journalists as powerful "watch dogs" against mainstream media, blogs are expected to bring sensational transformations to the field of politics, business and culture. However, notwithstanding its potential to become a new form of partisan press, journalistic usage of blogs, so-called "news blogging" (Singer, 2006) does not seem to be the dominant genre of blogs. While some blogs are primarily dedicated to communal and social issues, the majority of blogs are in fact individualistic, intimate forms of personal diaries in which bloggers engage in chronic murmuring about their daily lives for public consumption. For instance, based on content analysis of 203 blogs, Susan Herring and her co-researchers (2004) reported the majority of blogs in their sample (70%) can be categorized as "online diary" type (p.6). The research also found that unlike the widespread belief that blogs are socially interactive and interlinked in nature, more than two-third of subject blog entries (68.2%) did not contain any links to external web contents (p.8)4. Their findings echo those of Fernanda Viégas's (2005) survey research of bloggers' subjective perception of their spaces, where most respondents (83%) characterized their entries as the "personal musings" inescapably associated with the authors' personal experiences and emotions.

At first glance, blogger's authentic control over the contents and freedom of topic choice are akin to those held by conventional diarists. Nevertheless, diary blogs do not resemble their offline antecedents: instead, the social nature of the Internet has decisively transformed the meaning and style of diary writing. Traditionally, journals were private and even secret affairs with little expectation of others' scrutiny and were never linked to other journals5. On the contrary, with a click of the "publishing" button, a blogger can immediately release an entry to the cyber public, making it readily available for not only the author him/herself, but also for readers behind the screen including those whom he/she has never met. While bloggers intrinsically engage in practice of monological writing, they always already realize that their murmurs can sprout sequential dialogues/conversations between readers, unless they refuse feedback from commentators. What distinguishes a blog from a conventional diary is its ambivalent nature – monological and dialogical – with which the blog becomes a personal "home," yet also partially opens its "backyard" to the public. Thus, unlike a traditional diary, a blog can be part of a larger communication space where the author and readers together create an interactive social commons.

Meanwhile, this dialogical aspect of blogging raises a complicated question of privacy and content control. As pointed out by Bonnie Nardi and her colleagues (2004), even

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[3] As one of the earliest blog publishing portals launched in August 1999, Blogger.com has significantly contributed to current blossom of blogging. In February 2003, Google acquired Blogger and all blogs associated with Google accounts were relocated on Google server by the end of 2006. Notably, since its birth, Bloggers' blogs are not only publishable on internal domain but also externally on a user's own server through FTP or SFTP (Blogger). This republishing function differentiates Bloggers from other blog hosting services because it offers a greater ownership of the contents to the authors.

[4] This finding is really insightful when we consider the prevalent definition of blogs as link-driven formula. For instance, Rebecca Blood, one of the most well-known bloggers, repeatedly emphasizes the significance of links in blogging practice. Blood (2002) states: "In the world of weblogs, traffic is currency. Almost all weblogs are non-commercial ventures: they don't make money for their maintainers, and in fact probably even cost them a little. Links – to and from other sites– are the coin of the realm" (xi).

[5] It is important to acknowledge that not all conventional journals were exclusively private. The popularity of exchange diaries among youth, for instance, suggests paper diaries have often been shared between friends. Besides such communicative diaries, some diarists expect a readership while logging their personal lives. For instance, in her research of women's diaries, Lynn Z. Bloom notes that "not all diaries are written--ultimately or exclusively--for private consumption. Very often … these superficially private writings become unmistakably public documents, intended for an external readership" (1996, p. 23).

though bloggers are often willing to have a connection with audiences, they simultaneously desire to keep the audience "at arm's length" (p.6). No matter how valuable feedback and comments from readers seem to be, interactivity of blogs is a secondary benefit taking place outside of the acts of murmuring and actual entries. Authors thus deem blogs a "protected space" (Gumbrecht, 2004) in which interaction with readers is essentially subordinated to the authors' will. However, with a clear notion of readers, it becomes of concern to bloggers to enact certain privacy strategies to draw a line between publishable and non-publishable materials. Gumbrecht (ibid) finds that while authors take advantage of the interactive arena, they still "exercise self-control over how they present their material in order to shield themselves from potentially harmful future interactions" (p. 2). To protect their spaces for murmuring, bloggers subjectively impose constraints on themselves and the manner in which they constitute their discursive activities.

Although a blog engages an author in an array of online self-expression strategies established by personal homepages, it should be distinguished from its decade-old senior. Evan Williams, one of the original founders of Bloggers.com, describes three distinct concepts of blogging as "Frequency, Brevity, and Personality" (cited in Viégas, 2005). Certainly, technological ease and convenience of blog publication have released self-documenters from previous time- and labor-consuming process of updating. Since new entries can be uploaded instantly over the web, even from one's mobile device, a blog becomes more frequently updated, often daily, and even hourly, as opposed to a standard homepage that tends to remain static for much longer periods of time. With the aid of systematized templates offered by blog hosting services, a blogger does not have to spend too much time on designing and maintaining one's page. The user-friendliness and time-saving advantages of blogging have invited numerous non-tech savvy writers to this novice practice of online murmuring overcoming their previous hindrances.

Blogs are also quite different from other user-generated interactive interfaces, especially SNSs like MySpace and Facebook. Admittedly, current community-featured tendencies in several blog hosting services (i.e. LiveJournal, Xanga) along with SNS's general allowance for users to keep logs on their personal pages significantly blur the boundary separating these two platforms. However, unlike a blog, a SNS account is more dialogical and interactive place to find, connect and "hang out" with various friends (real or virtual-only alike) and to meet new people through networking function (Coté and Pybus, 2007). For a SNS user, diary writing is not a main activity of "hanging out," but one of various elements with which the user tries to link with as many friends as possible. In contrast, a blogger principally engages in monological self-presentation in protected space. Thus, the networkability of blogs is often limited or secondary as opposed to the SNS type of "built-in" function. Needless to say, logging is the very reason for a blogger to reside in the blogosphere and, therefore, the meaning of blogging is fundamentally different from logging on a SNS site: when bloggers stop logging, their discursive activity can be annihilated and buried into oblivion, while a SNS user can maintain his/her existence even without keeping a log. Furthermore, blogging is more task-oriented and asynchronous than its counterpart. As Mark Coté and Jennifer Pybus (2007) note, while MySpace users "typically have their site open whenever they are online" (p.5) and spontaneously post on their homepage as well as on others' sites, bloggers usually log out once they have posted an entry and checked comments from readers.

Aim of the present study: A SD blogger's friendship network

Regarding specificities of blogging as a medium for murmuring online, the present study intends to examine how a SD blogger's monological discursive performance on the blogosphere constitutes a network with readers. By identifying the commentators' profiles and their relationships with the author, this study aims to visualize the blogger's friendship network within her personal space. It also qualitatively analyzes the contents of dialogues between the author and the commentators in regards to commentators' self-reported interests in SD behaviors. This study tested differences in the commentators' preference for topics in replying to the blogger's entries between self-declared SD bloggers and those who do not show specific interests in SD. Considering shared interests in SD behavior as an initiator of sequential friendship, it was hypothesized that SD readers would prefer to post comments on SD-centered entries than would non-SD commentators. It

was also hypothesized that the author has more intimate friendships with those who have SD desire than non-SD bloggers, which can be estimated by frequency of reply, supportive and non-judgmental attitudes, agreements with the author's arguments, and sympathy toward her SD action.

Method

Sampling approach

The subject of this research was selected from a blogging portal, LiveJournal.com (www.livejournal.com). What distinguish LiveJournal (LJ) from other blogging services is its strong social aspect besides logging services, such as "friend" system and social networking functions similar to, but pre-dating, SNSs like MySpace and Facebook. The "friend" system is a part of the interactive element of LJ with which a user can link with other LJ bloggers and show their accounts on one's "friends list". Each user has a self-reported profile page which contains personal information including name, location, date of birth, sex, username of various Instant Messaging accounts (MSN, Yahoo, AOL et al.), lists of LJ friends, communities, and interests. Unlike other web services which request users to present their profiles by choosing from prepared menus, LJ provides a series of blank text boxes and allows users to freely express their interests and personalities in their own words. In addition, a LJ user can create and host discussion board-like group journals dubbed "communities." Members of a community can post messages onto it as they would on a regular journal and each message is automatically linked to the members' personal blogs. By using an account search engine built in LJ interface, a user can easily search for a specific community or an individual blog according to interest, region, school, age and gender.

The subject of this research was chosen from members of a LJ community formed around both suicide and self-injury (SI) issues. The subject community was located via keyword search engine built in LJ platform according to the search term "suicide," "suicidal," "self-injury," "SI (si)," and "self-harm." Among 250-300 suicide and SI-related communities the subject group was chosen because it: (1) addressed all five keywords as communal interests; (2) held certain number of members (N=1518 in May, 23, 2006); and (3) gained active participations from members (7-8 posts per day). While all discussions on the community were open for public, only the members approved by the moderator were allowed to start a thread and post comments on others' entries.

During the sampling period (May 10-23), 97 entries were posted by 50 different members. Among 50 members who have posted comments on the community thread during the research period, 13 people set their personal blogs as "friends-only" and rejected public readership, while 5 of them have not put any entries on their personal blogs. While most members did not identify their age, 20 of those who presented their age in the profile page were aged between 16 and 23 years and the majority were in the late stage of adolescence. Whereas most of them did not specify their gender, their self-portraits and occasional mentions about their sex suggested that a majority of the subjects were adolescent girls.

Whereas all of 32 subject bloggers belonged to the community, a half of them (N=16) were categorized as "self-declared suicidal/SI bloggers" by looking at the LJ profile section. All 16 subjects clearly expressed their interests in suicide/SI-related topics either by presenting particular keywords like "killing myself," "suicide," "cutting," "self-injury" as interests, or by introducing themselves on the profile as suicidal individuals with such expressions such as "I'm a little suicidal," or "a 18-year-old cutter." Among 16 self-declared SD bloggers, Perry (pseudonym) was chosen as a sample of this inquiry, because of her clear desire for self-harm, occasional mention of suicide and activeness in posting on the personal space.

Data and Procedure

During the research period (May 1 – June 30, 2006), Perry wrote 39 entries on her blog. 9 entries out of 39 on personal blog were set up "friends-only" while the rest of them accepted public readership and comments including those from "anonymous" accounts. All 30 entries were categorized into two different types; SD-related messages including expressions of urge of SD (i.e. "I want to cut") as well as reports of SD action (i.e. "I cut myself so badly"), and non SD-related messages. While 11 entries were dedicated to SD issues, 19 did not contain any SD messages. During this period, 83 comments were posted by 16 different readers on

Perry's blog and Perry replied them 35 times. While 72 comments were contributed by 12 LJ bloggers, 11 messages were posted by anonymous readers. By looking at each of 12 commentators LJ profiles, this study identifies; each commentator's relationship with Perry in LJ and in real life, their self-identification of SD desire, membership of SD-related LJ communities, and the relationship with other readers. Their real life relationships with Perry were identified by the contents of the posts which contained "insider" information such as Perry's real name, specific mentions about mutual friends in real life, specific names of places (shops, bars, clubs, school), actual events and activities (i.e. "it was so fun last night at club X"), or invitation to meet in real life (i.e. "call me tonight if you want to come over"). Moreover, placing Perry's articles into two categories – SD-related and non-SD –, this study examines which of two types of entries each reader preferred to post comments on. Finally, for qualitative analysis, two comments from two different commentators (one SD blogger and one non-SD blogger) and Perry's sequential responses to them were retrieved. All quotes were paraphrased and all unique names were removed or changed. Since this study employs an observational method without directly approaching to the subjects, active consent was not obtained.

Results

Table 1 shows profiles of the readers who replied to Perry's entries during the research period. Among 12 identified commentators, half of them were deemed as "SD bloggers" who clearly presented their interests in suicide and/or SI on their LJ profiles. Two self-declared SD bloggers were member of the SD community which Perry belonged to, while the rest of them were not. 9 of them were addressed on Perry's friends list and mutually listed Perry on their profiles, while the rest of them did not have LJ friendship with her. 10 commentators were categorized as Perry's real friends based on the contents of their messages while 2 of them did not show any real life relationship with Perry. None of the real life friends belonged to the SD community, while two online-only friends held membership in the community. In other words, during the research period, no online-only friend of Perry who did not have interest in SD commented on her blog.

Table 1: Commentator's Profile

	Number of comments on		Perry's LJ friend	Perry's Real Friend	Self-declared SD interest	Member of the subject community	Friend of
	SD-related articles (N=11)	Non-SD articles (N=19)					
A	0	2	Y	Y	N	N	
B	1	1	N	Y	N	N	
C	0	2	Y	Y	Y	N	F
D	3	2	Y	Y	N	N	H
E	5	17	Y	Y	N	N	
F	7	10	Y	Y	Y	N	C, J, I
G	1	4	Y	Y	N	N	
H	0	2	N	Y	N	N	D
I	0	1	Y	Y	Y	N	F
J	0	1	Y	Y	Y	N	F
K	2	0	N	N	Y	Y	
L	4	7	Y	N	Y	Y	
	23	49					

Regarding commentators' preferences for entries as presented in Table 2, no significant difference in the choice of articles between SD bloggers and non-SD bloggers was found. Although self-declared SD readers (N=6) slightly more often commented on Perry's SD-related articles than non-SD bloggers (13 vs.10), preferences of articles were varying in

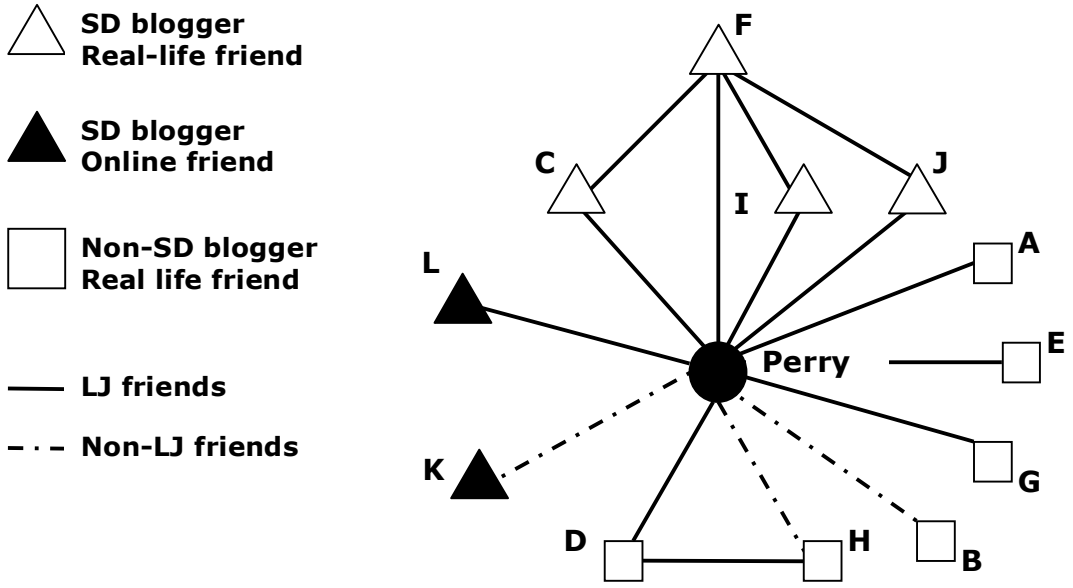
each commentator. In fact, almost all commentators preferred to reply to non-SD related entries than to SD-specific ones, except for one SD blogger (K) identified as a member of SD community.

Table 2: Correlation between Commentators' Self-Reported SD Identity and Their Preference for Perry's Entries

Commentators	Numbers of comments on	
	SD articles	Non-SD articles
SD readers (N=6)	10	28
Non-SD readers (N=6)	13	21
	23	49

In terms of the relationship among readers, commentator F addressed C, J, I on her LJ friends list while mutual friendships among those three (C, J, I) were not found. Also, commentator D and F listed each other as LJ friends. Notably, C, F, J, I were identified themselves as SD individuals and indicated their membership of SD-related LJ communities. The relationships among commentators are schematically represented as a network map, as shown in Figure 1. What should be acknowledged in this map is the absence of online-only, non-SD commentators; during the research period, Perry did not obtain any response from online-only readers who did not share SD identity with her.

Figure 1: Perry's friendship network



Sequential interactions between the author and the readers

Among 12 commentators, two persons (E and F) responded Perry's entries with much greater frequency than other readers. As is shown in Table 1, while both of them were Perry's LJ friends and deemed to be her real life friends, only F was categorized as a SD blogger based on her self-reported interest. Both of them posted more comments on Perry's non SD-related articles than SD-specific ones (17 vs. 5 in E, 10 vs. 7 in F). Focusing on these two commentators, the following section qualitatively analyzes the dialogues between Perry and them.

On May 19, 2006 Perry posted an entry (Extract 1) and presented her unbearable urge of self-harm elaborated by being ignored by her ex-boyfriend.

> Extract 1: [May 19, 2006 | 09:05am] posted on the personal blog
> everything's falling apart atm. its getting so hard to cope. i keep crying all the time and i feel like i can't tell [boyfriend's name] anything. (…7 lines omitted…) i didn't cut, i managed not to somehow. but i had a really scary urge to slit my wrist last night and this morning. not to kill myself, but just to put a bit cut across my wrist. thing is, only blade i have on me is a mega sharp razor blade. it wouldn't be so bad with my carving knife, but this thing cuts and you keep

bleeding. i hate feeling like this. i just wanna be happy for once in my life.
also [ex-boyfriend's name]'s not talking to me now, big surprise there though.
i told him i was sorry and didn't wanna lose him as a friend, but he's ignoring me.
i hate this. (…3 lines omitted)
Number of comments: 11

In explaining extreme urge of SI desire, Perry presents a detailed description of self-harm action by identifying which part of her body she wants to cut (ll. 4-5) and what equipments she is supposed to use (ll. 5-6). Notably, she clearly defines that her action of SI was not caused by suicidal desire writing "not to kill myself, but just to put a bit cut across my wrist" (ll. 4-5). By separating her SI desire from an attempt of suicide, she indicates that the self-harm action helps her escape from pent-up struggles. However, she also shows hesitation to carry out SI, concerning the negative outcome of this action: "this thing cuts and you keep bleeding. i hate feeling like this" (ll. 6-7).

16 minutes after Perry's first entry about elaborated SD urge, extract 2a was written by commentator E, Perry's real life friend with no self-reported SD desire.

Extract 2a: [May 19, 2006 | 09:21 am] posted by E responding to Perry's entry
i understand hun… i was sayin well if they dont want to hurt u they aint gonna do like
this shit but they did…i am here dont cut please…if ur at [Perry's boyfriend]'s read this
and ring me 2nite see if u wanna come ova i can cheer u up to have a large smile :)...
as for [Perry's ex-boyfriend], who cares if he's ignorin u…
he's just a jerk and is takin advantage of the fact ur vulnerable to anything he does to u.
its probably better that ur stay away from him anyway. :/
(2 lines omitted)

Extract 2b: [May 19, 2006 | 09:39am] Perry's response to E
hug thanks [E's real name]. your probably right, i think i will just leave it for a while. i
just don't wanna lose the one person thats been there for me for a year and a half.
(…4 lines omitted)

In Extract 2a E clearly addressed her intention to prevent Perry from harming herself by saying "i am here don['t] cut please" (l.1) and encouraged Perry to call her and come over to her place for help (ll.2-3). She also presented a supportive attitude toward Perry by blaming her ex-boyfriend (ll.4-5) who was assumed to be E's acquaintance in real life. Obviously taking Perry's side, E advised her to "stay away from him" (l.6) in order to overcome emotional struggles and SD urge. However, in her response to E (Extract 2b) Perry presented a hesitation to "stay away" from her ex-boyfriend. While Perry seemingly agreed with E by using a modal adverb "you['re] probably right " (l.1), she provided a specific explanation of her reluctance to sever relations with her ex-boyfriend (ll. 2-3) and tacitly showed her disagreement with E's suggestion.

Another Perry's real life friend, F (self-declared SD blogger), wrote a comment 44 minutes after Perry's post. Although at this moment Perry was assumed to be in the middle of escalated SD urge, in the following conversation with F both of them did not refer to her desire of self-harm.

Extract 3a: [May 19, 2006 | 09:49am] posted by F responding to Perry's entry
Same with me and [(ex)boyfriend]. I needed him so badly last night., I was thinking crazy
shit about killing myself, but he simply said he wouldn't come over. I've suddenly lost
the one person I could talk to. The one to live for I've lost.

Extract 3b: [May 19, 2006 | 9:58am] Perry's response to F
i know, its how i felt. its shit. we just need to find someone to talk to when we
need it, someone we can trust. wanna be trust buddies lol

In Extract 3a the commentator F presented a compassionate message to Perry disclosing her own experiences with her (ex-)boyfriend. Although F suggested her sympathy with Perry, her comment was precisely centered on her own experience and feeling rather than Perry's emotional struggle. In her use of self-disclosure to show her supportiveness to Perry, F obtained an intimate response from Perry (Extract 3b). In her response to F, Perry used a declarative expression "i know, it ']s how i felt" (l.1) and showed a greater sympathy with F than did she with E. Perry also indicated her comoradeship with F by using a first-person plural pronoun "we" and articulated their common need to "find someone to talk" (l.2). Notably, within this sequential dialogue

between Perry and F, neither of them mentioned Perry's urge for self-destructive action that was supposed to be heightened at this time. This disregard for Perry's SD action shared by two interactants indicates that they tacitly recognized her SD behavior as a non-fatal action, thus did not seriously worry about her life. It is thus assumed that as a SD individual F has already recognized and somewhat approved Perry's SD habits, thus disclosed her own experience (antagonistic relationship with ex-boyfriend) to show her understanding and sympathy toward Perry.

Discussion

The findings presented by this study suggest that Perry has used her blog as an intimate space to communicate with her close friends. Since the majority of her commentators were deemed to be her friends in real life, her online social network is, to a significant degree, overlaps with her offline one. In the meantime, Perry's social network showed a certain online extension because some online-only acquaintances and complete strangers (anonymous commentators) also joined in her personal space. It is assumed that Perry constitutes her personal blog as "semi-public" sphere where she talks about personal issues at a greater detail than in public space while consciously opening her "backyard" to the public. The results also suggest that online-only friends visiting Perry's backyard were connected to her primarily via SD interest, rather than other facets of her discursive identity. In this light, Perry's online social network is assumed to be centered on her self-identification as "the SD individual," which creates specific camaraderie among like-minded individuals. Furthermore, the mutual network between one SD commentator (F) and three other SD bloggers (C, I, J) indicates that both Perry and F performed the role of nodes among SD bloggers while non-SD bloggers tended to independently connect to Perry.

In terms of the correlation between commentators' SD personalities and their preferences for topic, the results did not support the hypothesis which anticipated SD commentators' preferences for SD-related articles rather than non-SD topics. Nevertheless, the qualitative discourse analysis illustrated diametrical attitudes toward her SD habit between two close friends of Perry (E and F). The sequential conversation between Perry and these two readers suggested that Perry's self-definition of her SD habit was recognized as a practical (though temporal) solution by both the author and her commentators. However, while the non-SD friend (E) actively tried to prevent Perry's attempt of self-harming, the respondent with SD desire (F) simply proposed her compassions with Perry without directly mentioning her SD habit or addressing her opinion toward SD action. Furthermore, while both commentators showed a great deal of sympathy and understanding with Perry's emotional distress, in her response to them Perry showed greater camaraderie to F who disclosed her own experience than to E who attempted to prevent her SD action.

Conclusion

In explicating the uniqueness of monological online practice, this paper has argued that murmuring online opens up additional pathways for SD individuals to act out and work through their pent-up struggles. Unlike interactive spaces where shared norms encourage participants to engage in the reclamation of projected parts of self, murmuring online could enable its practitioners to exhibit a variety of perspective in explaining their vulnerability and maladaptive personality. The specific characteristics of blogs that allow authors to experience social interaction while ensuring their authentic control over the discursive space make them attractive for users with ardent desires for self-disclosure. In fact, the flowering of diary blogs among diverse sub-genres of blogging indicates a growing demand for personal discursive spaces where authors can subjectively explore and negotiate their identities. As an emerging murmuring medium, blogs have constituted a unique genre among online self-presentation by playing dual roles as a monological "protected space" and a communicative sphere where authors exhibit a dialogical self to the public. Since the interactivity of a blog is ultimately at the author's discretion, the blogger's self-reported identity significantly influences his/her performance in the blogosphere as well as sequential relationship with readers. In the study of blogger's friendship network, it thus becomes crucial to probe which aspects of identity bloggers present in the personal discursive playground.

The findings reported here revealed that the blogger's friendship network constituted within the blogosphere certainly mirrors her offline relationship with real life friends. Given an intimate space to interact with real life comrades, Perry extended her social network to a virtual sphere involving anonymous readers. In doing so, Perry's self-identification as "the SD person" crucially influences her discursive activity and sequential interactions with commentators; the absence of online-only, non-SD commentators illustrated the fact that Perry's performance in LJ blogosphere was based on her self-identification that attracted like-minded individuals to join in her personal space. One's lived acting out online facilitates further interactions with similar others, which allow the SD blogger to involve others in the ongoing process of maturation. Moreover, sequential interactions between Perry and her commentators implied that when SD identity was shared by interactants, they tended to formulate a more compassionate, sympathetic and intimate relationship on the basis of shared interpretations of self-destruction as a practical means of overcoming emotional struggles.

Despite of all the findings and implications, the research presented here had some limitations that should not be overlooked. First, the sample used in this study was extremely small because of the research focus on one SD blogger's discursive activity, which requires extension on a larger scale to validate the current results. It is thus suggested that future research should expand on the current study and make comparisons with other SD bloggers while using a modified method of mapping bloggers' friendship networks. Second, this research primarily examined written forms of discourses while the blogger's non-textual expressions – such as icons, images, video clips, and spatial order of documents– were not examined. Future study of blogosphere should employ the method of "online hybrid media analysis" (Pauwels, 2005) and investigate audiovisual and multimodal contents in addition to textual attributes. Third, besides interactions in the blogosphere, LJ bloggers are assumed to combine other synchronous and asynchronous communication channels such as emails, Instant Messagings, phones, and other online platforms like SNSs. For future investigation of monological and dialogical usage of blogs, it is crucial to examine how such external and auxiliary interactions influence bloggers' timely presentations of "self."

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Community New Media
Beyond "Dissolutionized Dissent"

Kristoffer Gansing

Copy & Paste Marksism 1.
COPY A NET ROLE MODEL: OPTIMISED FOR COPY AND PASTE
(is easier to do from right to left but somebody succeeded the other way around too)

marx.jpg marx_copy.jpg marx.jpg
marx_copy.jpg

When I'm in the crowd, I don't see anything. My mind goes a blank, in the humid sunshine.
When I'm in the crowd, I don't see anything. I fall into a trance at the supermarket
*The noise flows me along, as I catch falling cans of baked beans on toast, technology is the most.**

Eviction: My Space through a Webcam Flicker

On march 1st 2007, the Danish authorities brought in the police to evict the inhabitants of the infamous youth squat "Ungdomshuset" situated in the Nørrebro area of Copenhagen. If you followed the story you also know that the house was quickly demolished, leaving no more opportunities to fight over that particular physical space. But the fight was taken further anyway, not the least through self-produced media. Unsurprisingly, a lot of this kind of self-produced activist media, traditionally disseminated through *community media* is now distributed through online networks. A recent search I performed on the popular videosharing site YouTube for "Ungeren", the local nickname of Ungdomshuset, revealed a whole 172 pages full of videos. These videos were clearly showing that activists from whatever camp happily publish their videos on YouTube: there seems to be as many pro- as there are anti-statements on Ungdomshuset, and the story keeps updating itself by new contributions every day.

Activist and subcultural groups in this case seem to have adopted a pragmatic approach to the new Web 2.0 culture – you go where the rest of the people go and where it is possible to get your message across. A lot of the Ungeren videos can also be said to not fall easily into any categorization of for or against – they simply bask in the sensationalism of the event itself: the police violence at the demonstrations, the activists violence at the demonstration, the quick demolition of the house, the destruction of cars, trash cans and shop windows, the crying teenagers, the ensuing movement of sustained demonstrations and street parties… All of which on late Thursday nights and sunny Saturday afternoons even reach outside my own window at the other side of town.

It was on one of those late Thursday nights that a friend in Gothenburg called me up through the Internet phone service Skype, asking how the state of things were. The eviction and demolition of Ungdomshuset were getting a lot of media attention up there too. But how was it *really like*? Could I not show him what was going on? So I turned on my webcam and directed it at the action. I don't know what he and his girlfriend could make out of the remote actions and sounds going on, filmed as they were through the dark from the third floor, some 50 metres away with a poor webcam to boot. But this was the real thing for them, self-produced media from somebody they knew. This was something they could relate to, my space through a webcam flicker.

Maybe it is time to realise that the "alternative" prefix might loose its relevance altogether as radical forms of media production become part of everyday consumer services on the Internet.[1] I state this with some air of nostalgia because this is what seems to be the condition of so much media production today. But no matter how hard we try to rejuvenate collective and DIY modes of production, the business world simply loves the new "net-communists".[2] Should this be the reason for even more nostalgia, a nostalgia 2.0? Can this dilemma of alternative media today be resolved? Is it even an important question to resolve it or should we rather look upon this dilemma itself as being a productive moment?

There were also other self-organized media producers covering the events surrounding the eviction of Ungdomshuset in Copenhagen. One of them was the local-TV station tv-tv, situated in the very same area and run by a group of artists and young academics. I am one of them. For about one year I've carried out an informal kind of action-research within this group, taking directly part in the production as well as trying to think about new ways of producing and organizing. During the writing of this text it became clear to me that if I was to succeed in explaining what kind of production is possible within tv-tv, my own position in space and politics somehow had to be revealed and problematised.

The very same day as the eviction Ungdomshuset took place, I was going to produce and transmit a live interview with Barcelona based horitzo.tv – an activist net channel operating under the parole that "another television is possible".[3] At tv-tv we have a quite late transmission time, at 23 hours that day to be exact. The house where tv-tv resides, The People's House, is also one of the main meeting points for young leftist radicals, so after the eviction of Ungeren, this was the natural place to gather – it simply became a central "info point" for the community of activists. As the police were issuing orders to arrest anyone out on the streets, "just in case", I was increasingly nervous that night about venturing out to the tv-tv studio. After all, my bike had a flat tire and walking seemed too risky. I was going to produce a TV programme, not get caught up in street actions. There was always the bus nr 3A, which would take me straight from my doorstep to the one of my desired destination. But turning on the television proved to be the final blow to this option: the first image that greeted me was of that of the burned down bus station in front of The People's House! I cancelled the show. Instead tv-tv transmitted a screen with a text that night, declaring that "You don't have to be an autonomist to sympathise with Ungdomshuset!". In hindsight, this could not have been more appropriate – a moment of involuntary self-reflection saying more that particular night about the relation between tv-tv and its surroundings than any programme on translocal networking in alternative media projects could ever have done.

Alternative media production has always been as much about context as content.[4] As I mentioned previously the kind of content that today goes onto YouTube was previously

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[1] Suggested in Atton. (2002)

[2] "7 trender du inte får missa" ("7 unmissable trends") Veckans Affärer 51/06/7. Published 07:00 2007-01-02, accessed same day. This magazine is Sweden's "Business Weekly" and the article states 7 trends for 2007 of which number one is:

"1. The capitalists loves the new net-communists", a text which is accompanied by a photo of the white-bearded Marx, comfortably seated with his hand inside his jacket, Napoleon style, with the caption "NET ROLE MODEL. Collective production is the blueprint for 2007" The photography is attributed to Scanpix.

See also Barbrook, Richard. "THE HOLY FOOLS - a critique of the avant-garde in the age of the Net" (2003), and his new book "Imaginary Futures" (2007).

[3] www.horitzo.tv

[4] Atton, Chris. (2002)

situated in the field of Community Media. This field is known as "local-media" in Denmark and it is the field in which tv-tv sits. Somewhat uncomfortably I would say, because on the one hand it is a regular non-commercial local-TV channel transmitting through the airwaves and therefore subject to all the juridical baggage and regulations of the Danish state laws for local media and not the least the demands of a steady flow of production. And then on the other, it is run in a decentralised manner, by a network of producers with the explicit intent of creating an alternative voice through self-organizing, collective and DIY modes of production.[5] This is a concept of artistic production as critical intervention with many historical precedents, not in the least of 60's and 70's film, video and TV activism but as we shall see tv-tv has its own particular history in this context. My intention in this text is to tell that story as well as to talk about the implications of a wider context: that of how networked digital media impacts on the modes of production at play in a project like tv-tv. Because of its particular story and "interstitial" position, tv-tv cannot simply be reduced to a retro-art-activism project and because of the converging media cultures of today we cannot think of it as outside of the new digital and networked contexts.[6]

In order to reach a point of discussion of these claims I first need to delineate what *used* to be the terms of production of such alternative media projects. This will be demonstrated by a brief analytical history of community media in Denmark as a kind of "institutionalized dissent" existing in the tension of state-regulations and an oppositional public or counter-public sphere. Considering the present terms of production however, forms of self-organized and DIY media expressions become subject to quite different medial, economical and regulatory systems: those of neoliberal restructuring, regulation, de-regulation, networked organizations and organized networks.[7] It is the processes of transfer between these in the production of tv-tv that is the ultimate focus of this essay. In order to carry out such an analysis we need to stake out the positions between and through which such transformation takes place. That is why I move on to sketching out the history of institutionalized dissent in the field of community or "local" media in Denmark.

Before embarking it is important to note that I want to move beyond the conception of community media as being the media that predates the common conception today of an "active audience". I hope to clearly state community *and* networked media as autonomous fields of *production*, escaping the way that critical media scholars "by collapsing the distinction between production and consumption legitimise a convenient fiction manufactured by the culture industries".[8] This is not an easy claim in a culture where the borders between production and consumption seems more blurred than ever. The idea that once passive audiences are now becoming active producers is often accompanied by the discussion on what kinds of "rights" should govern this production. Yet, this doesn't seem to me to be the place to look for the new foundation of DIY and collective forms of production. A good example is the public debate in Sweden surrounding the bit-torrent server The Pirate Bay which through its political controversies with powerful commercial and political forces in the USA has become connected to citizens rights. But a scratch on the surface reveals another order - again the conflation of citizens rights with that of "consumer rights" – as in the right to download and distribute Hollywood blockbusters and American TV-series. Which seems to hint that the "rights" discussion is more about creating the foundation for a new kind of culture industries than to engage in any possibilities for other ways of imagining individual and collective production. Precisely because actual production

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[5] See the tv-tv manifesto, quoted throughout the text and included as an appendix to this paper.

Also available on http://www.tv-tv.dk (in Danish only)

[6] Here I'm deeply indebted to the practice and theory of the Telestreet project in Italy. See for example Pasquinelli's "Manifesto for Urban Televisions" where he speaks of how the horizontality of the net must meet the socializing power of television, published at http://subsol.c3.hu/subsol_2/contributors3/pasquinellitext.html and elsewhere. See also Svensk, Fredrik "TV som protes till Internet", Paletten 2005 for a good analytical account of this movement and its influence on contemporary art practice. The idea of the net as a vanishing point for TV has also recently been further developed as an appropriation of Umberto Eco's and Francesco Casetti's concept of Neotelevisione, originally devised in the 80's as a concept to describe the Berlusconi mediascape. See Pecchioli, Marcello (ed) *Neo televisione -Elementi di un linguaggio catodico glocal/e*, costa & Nolan, Milano 2005.

[7] Harvey, David. Lovink & Rossiter.

[8] Howley, p. 3. (2005)

of media is such a vital part of the age of user generated content, we need to ask what are the conditions and possibilities of this production-becoming-consumption?

Community Media: From Institutionalized to "Dissolutionized" Dissent

Community and alternative media production have often been connected to the development of consumer level technology. The earliest experiments in DIY public media workshops carried out by pioneers such as Dee Dee Halleck in the late sixties explored the possibilities of citizens media created with the Sony "Porta-pak", one of the first consumer videocameras.[9] And earlier in the late 50's, the introduction of lightweight 16mm cameras and cheap film stock had revolutionised the work of independent documentary and experimental filmmakers. Without commercial forces pushing for the expansion of cable based TV-networks in the USA, the first experiments in Public Access Television might not have seen the light of day. In the 1970's, laws were passed in the states that the new commercial cable networks had to provide a certain percentage of funding for the establishment of non-commercial public interest channels.[10] A similar story applies for the European model of "Open Channels" which were started as an illegal activity by Dutch hackers who pirated the first cable-networks in Amsterdam in the mid-seventies. In other words the development of commercial and alternative DIY media have frequently been operating in tandem.

In Scandinavia the first challenges to the State media monopolies of both Sweden and Denmark came from pirate radio stations, transmitting the pop-culture sounds of the commercial music industry from ships in the surrounding oceans.[11] The story of the first Danish "pirate ship" hosting the commercial Radio Mercur, shows how early media entrepreneurs were using activist methods for exploiting the nexus of local-global in media production:

> "The ship is officially rented at the London-based BALTIC PANAMA SHIPPING COMPANY by the Zürich-lawyer dr. Jan Flachmann's Swiss INTERNATIONALE RADIO MERCUR ANSTALT, set-up with the same purpose, and which equipped it with transmitter and transmission-pole, prior to when the Danish RADIO MERCUR company rented it!" (Ahm, Leif, p. 154, 1960)

One of the very first Danish chroniclers of this story, Leif Ahm also reports on similar attempts going on in television piracy, now taking to the airwaves quite literally: the Radio Mercur people planned to have a plane rented in Germany, equip it with a television transmitter, and let it circle over Denmark!

Thus prior to the existence of the Internet, other nets where frequently mobilised by re-territorialising media producers.

In Denmark this pirate activity softened the state radio's approach to popular culture and in the fifties forced it to also include popular music. Later, in the sixties there was pressure to democratize also the access to the actual production and distribution of media. This pressure came mainly from two different directions; liberal forces wanted to break the monopoly in order open up media production to the private market; while left-wing parties and grass-roots groups were interested in the possibility of democratizing citizens and special interest groups access to media. The Danish state however was reluctant to break the monopoly of the the Danish Broadcasting Company (DR). When an experimental scheme for local-radio and TV was eventually tried out in the beginning of the seventies it was modelled exclusively on the concept of creating mini versions of the DR stations around the country. The initial inspiration came mainly from the Canadian and American experiments with cable-TV but due to the lack of sustainable models the original idea of

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[9] Halleck, Dee Dee. *Handheld Visions – The impossible possibilities of community media.* 2002.
Olson, Bill. "The History of Public-Access Television" (2002)
http://www.geocities.com/iconostar/history-public-access-TV.html

[10] Ellie. (2006) and Olson. (2002)

[11] See Nørgaard (2003) on the Danish case and Ljunggren, Bohman, and Karlsson (2002) on the Swedish pirate activities which led to the establishment of the first "workers radio" stations and finally Leif Ahm who in 1960 wrote the magnificent first television history in Denmark: *A World in Sound and Pictures* (En Verden i Lyd og Billeder).

strengthening democracy through direct contact between citizens and local governments was not realized.[12]

The differences between the Danish and north American media landscapes are worth considering as possible contributing factors to this initial failure. The Danish state was sceptical to liberalize the access to media production and distribution meaning that there were no sponsors from the commercial sector to support the project. This meant that it was up to the state alone to devise the scheme, failing in sufficiently addressing the grassroots, instead adopting a top-down organisation structure regarding the issuing of broadcasting licenses.

A second more successful scheme was devised by the social-democratic government at the end of the 70's and put into action in the early eighties. The focus was still on non-commercial media but this time around a more systematic subsidy system was built in as well as a consideration for the grass-roots more in style of the European Open Channels – after all they had been initiated by the grass-roots and commercial interests themselves and not the state. Consequently, wireless broadcasting was also included in the licensing system and according to Jauert and Prehn, as many as 150 licenses were issued for local radio and television during the first years.[13] The criteria for obtaining a license was set by the ministry of culture and stressed the importance of "advocacy"-media, meaning that local media should foster citizen's involvement and promote debate in local democracies in stark contrast to the national television's orientation towards wider public interests. Different groups who were active in establishing the first channels were organisations with roots in the worker's movement, religious and immigrant communities.[14]

However, the goal of creating advocacy media catering to a kind of alternative political sphere was quickly undermined by a number of factors. According to the veteran Danish radio activist Preben Poulsen, politicians were early on waning in their support, fearing the outbreak of renegade broadcasters who would influence the Danish public. A reason for this change in attitude could also be attributed to the fact that the local-media scheme was planned by a social-democratic government but actually implemented under conservative rule. But the biggest sinners were undoubtedly the grassroot stations themselves who, fearing they would get too few listeners, also started broadcasting the pop sounds of commercial music. This led in many cases to the complete erosion of the initial committed and advocacy media ideals and that many local-radios became professionalized competitors to DR's national and regional broadcasters. In 1983 some of these now very popular stations let political parties buy ad time for their upcoming elections. This meant that even if in theory the founding nature of Danish local-media was non-commercial, in practice it was now opened up for commercial exploitation as well. A consequence of this was increasing liberalization of the Danish media, culminating in the establishment of the first nation-wide commercial channel, TV2, in the mid-eighties. Ironically, it was the non-commercial and supposedly grass roots media themselves that had taken a significant step towards this change. This also led to concrete changes in the local-media policies which by the mid-nineties came to recognize both a commercial and non-commercial layer.[15] This also lead to an increasing polarization, where the remaining non-commercial stations would be the ones to carry on the original ideology of advocacy-media, for example by forming the organisation SLRTV for promoting the rights of community media in Denmark.

Throughout the nineties the non-commercial local media were supported by the State through a subsidy pool covering production of programmes and administrative costs. As with public access television the criteria for support are often formulated according to

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[12] For this section I rely on the extensive work of Per Jauert and Ole Prehn (1985, 1995, 2002, 2003) who are the leading researchers on local-media in Denmark. I also build the story on a lecture by and discussion with Preben Poulsen, a veteran activist of Danish local-radio who gave a practitioners view on the subject of the media political development of non-commercial local-media from the beginning of the 80's until today at a seminar of the association SAML in Avedøre, Denmark October 20, 2006. Data are from my own notes and Thomen, Gitte et al. 2006.

[13] Jauert and Prehn (1995)

[14] Poulsen, Preben. Lecture about the history of local-media politics in Denmark. Friday Oct. 20, 2006. Media-political seminar in Avedöre organised by SAML. (see note above)

[15] Jauert & Prehn (2003) p. 5.

ideas of alternative public spheres stressing such aspects of local media as citizens involvement in local democracies and giving a voice to minority or under-privileged and special interest groups. Associations for non-commercial local-media also like to stress the same ideals as the foundation for their existence.[16]

However, if local media succeeds in fulfilling such goals has been contested since its very start. The problems of Danish local-media can easily be likened to those discussed by community media scholars critically evaluating public access and open channel television. As Rennie notes, one common criticism against community media is that its utopian ideals never seem to materialise in the general culture and that it stays marginalized.[17]For Rennie, this is an unfortunate consequence of how people tend to put too much emphasis on the alternative media aspects of community media, obscuring other aspects which have more to do with community media operators being part of civil society and enacting civility. Her study points in the direction where marginalization should not necessarily be seen as a failure since these media have more to do with empowering ordinary citizens within civil society debates and less with bringing about a radical new media order. A similar viewpoint is adopted by Howley who talks about community media as an independent sphere where different social actors articulate local concerns.

For Chris Atton however, who is a scholar of the production of alternative media, the limitations of state regulated local media, and community TV in particular lies in its particular form of "institutionalized dissent". Since, as Atton shows, alternative media production has always been as much about the modes of production as about the content (content and context are seen as inseparable), community media in this form might never achieve its utopian goals. This is becoming clear in Denmark today, where the media landscape is undergoing a major re-structuring which also deeply affects the non-commercial local media. But in this landscape, new constellations of production have also appeared. In the context of alternative media, the net is obviously the most important example. Initially the net was seen as the natural inheritor to zines – a forum where individuals and groups could publish themselves outside of the control of the state. Yet new forces are inhabiting the net, forces which have to do with the neoliberal re-structuring of culture politics at large, which also should make us attentive to the hidden regularization of this sphere – what we may think of as a transformation from institutionalized to "dissolutionized" dissent.

In 2002, after the shift in Denmark to a new right-wing government, subsidies to the non-commercial local media was severely cut and local media associations were starting to talk about "Berlusconi"-times. After many complaints, a new support system with more subsidies was implemented in 2006, even though supports were significantly lower than recommended by a report commissioned by the ministry of culture itself. At the same time, new regulations also sprung into action that imposed new rules on the non-commercial local-stations, stating that they would have to explain more in depth than before how they were rooted in their local community, as a geographical entity. Some organisations raised concerns that this could be interpreted as a way to actually diminish the more opinionated radio and TV-stations catering not so much to geographically delimited localities as to special interest groups within political subcultures and sexual minorities. It would also become increasingly evident that this was also a scheme to further erode the existence of the non-commercial branch of local-media in favour of commercial interests. The proposal for a new state media policy released in the summer of 2006 seemed to confirm these fears since, the non-commercial local media was now literally written out as an autonomous area. Gone was the paragraph specially catering to the non-commercial local-media, which instead was consistently grouped together with local media in general, including commercial licenses.[18]

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[16] See SAML or SLRTV in Denmark.

[17] Rennie (2006) P.

[18] Mediepolitisk aftale for 2007-2010, Kulturministeriet 2006.
http://www.kulturministeriet.dk/graphics/kum/downloads/Kulturomraader/Radio_og_TV/Medieaftale%202007-2010/medieaftale%202007-2010.pdf

This was a further sign of the new political agenda to cater to the liberalization of the media market, which has also been confirmed by the national TV-board and the cultural minister himself. The non-commercial sector can still obtain a special financial support but it will not enjoy the same privileging from the state when it comes to license issuing. This is a development which fits perfectly with the description from David Harvey of the politics of neoliberal restructuring.[19] Under the mantle of decentralisation and democratic ideals, the Danish cultural ministry is carrying out de-regulations leading to market friendly reregulations such as: closing down all local-TV boards who previously issued the local licenses, reducing the support to almost nothing in order to be able to raise it marginally under paroles of "generosity" the following year, opening up the financial support to other actors than media broadcasters, bureaucratizing even more the conditions for obtaining a license and at the same directing the regulations surrounding the license issuing in favour of commercial actors.

In 2007 the Danish ministry of culture will also implement a new "media-license" fee which will replace the traditional radio- and television-license for ordinary citizens. The fee will now be expanded to include all PC's, certain mobile phones as well as other new media devices based on the convergence of media. The argument behind this expanded media-license is that you can now access the content of the Danish public service stations not only by the traditional media such as television and radio but increasingly through net-based technologies.[20]

By implementing the new media-license fee system, the Danish state will actually be the first in the world to have introduced a taxation of the Internet. Maybe this new form of financing the state media would be a logical development if the Danish state was also implementing a progressive politics on the development of the new media frameworks such as the Internet. The closest we get to this in the new proposal for the media policy 2007-10 however is the talk about "digitalisation" which is almost solely concerned with radio and television and the closing down of the analogue net.[21] Alarmingly, it seems like the state is lacking in any coherent visions for the new media. Of course, the Internet is a tricky area for any state and one suspect that the ministry of culture is more than happy to leave its development to the entrepreneurial culture already thriving there. The lack of regulative frameworks for media production in networked environments does not necessarily mean that the State is disinterested in implementing mechanisms for control in this area. The entrepreneurial democracy existing on the net is the perfect medium for a state that wishes to advocate neoliberal policies on media production. In principle everybody can make their voice heard on the Internet but it can easily also turn into a subcultural ghetto where it is the service providers rather than the users who are increasingly reaping the benefits. Who will these service providers be and what will be their terms of use concerning media production? This development is even more distressing when considering that several cases of Internet censorship in Denmark during the last couple of years now seems to be systemized.[22] At the same time the net is more and more becoming a collection of gated communities where private service providers are allowed to set the rules of conduct. As an indication of the Danish state policy on this, it is enough to say that the Danish ministry of taxes is the first in the world to have set up its office in Second Life, on the virtual island of "Denmark" where the terms of use are those of the Californian company Linden Lab.[23]

Summary: The institutionalized dissent of community media is giving way to a hidden re-regulation which in many ways is a more effective dissolution of dissent – at least of the

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[19] Harvey (2006).

[20] The license aims to be "neutral" towards technology. "Mediepolitisk aftale 2007-10" p.7

[21] The one exception being a possible of opening of the radio and television archives to the public.

[22] See "Danmark indfører internet-censur" http://www.comon.dk/index.php/news/show/id=25399 and "CENSUR" http://www.arbejderen.dk/index.aspx?F_ID=32343&TS_ID=1&S_ID=39&C_ID=43 The discussions are about a general filter on children's pornography and terrorism-related content respectively.

[23] These terms of use can be read at: http://www.secondlife.com/corporate/tos.php. This example is inspired by the recent essay of Linda Hilfling: "For any reason or no reason - on virtual (extra-)territoriality" posted to the nettime discussion list on May 29 2007. See www.nettime.org for archives.

ways in which dissent used to have its place of delivery through the non-commercial local-media. It's in the middle of this discussion of autonomy and regulation within shifting media politics that I want to finish with considering the case of production at the artist-run local-TV station tv-tv in Copenhagen.

don't make tv, make tv-tv: Community New Media as Vanishing Point of TV

tv-tv is self-organized tv, neither the state's apparatus nor the market's tv. tv-tv is a network of independent producers who are all longing to make tv. tv-tv wants to break the traditional monopoly of the means of production and the right to broadcast.

tv-tv is an artist-run local TV-channel [24] operating from Folkets Hus (The People's House) in Nørrebro, Copenhagen, a house originally squatted by local activists in the early seventies. The project consists of a decentralised network of independent producers, mostly artists, broadcasting on the local television channel Kanal København during two hours, three times a week. There are several editorial groups within tv-tv, all dealing with specific issues with names like "More People Mediate", "Editorial for Experimental TV-Transmission", "Democratic Innovation", "Text-TV" etc. In several ways tv-tv holds an in-between position to the discussion I wish to raise in this paper, which concerns the status of community media and what its aspirations to "alternative" modes of production mean in the age of networked communications. On the one hand it is a regular non-commercial local-TV channel transmitting through the airwaves and therefore subject to all the juridical baggage and regulations of the Danish state laws for local media. On the other hand it is run by producers with the explicit intent of creating an alternative voice within the Danish broadcast media and its associated extension into the Danish public sphere. This is a concept of artistic production as intervention which certainly has been tried out before the coming of networked digital media, but which I want to argue cannot today be thought of as outside of this context.[25]

The history of tv-tv is associated with TV-Stop, the previous owners of both the physical studio space and the transmission license – a group of leftwing media activists whose efforts were very visible and influential in the Danish media during the beginning of the 90's. The group that now runs tv-tv are not in the same way explicitly connected to a political agenda and can be said to represent a more general group coming from the creative workforce of the art world and academia.

The turnover of the broadcasting license from TV-Stop to tv-tv suggests in a concrete way the relationship between contemporary artist initiated TV-projects and the activist video and TV movements of the 1970' - 90's. As an artistic practice tv-tv can be regarded in the more general context of the revitalization of "critical activism in contemporary art" which Okwui Enwezor writes about in his essay "The Artist as Producer in Times of Crisis", characterising it as a transition from collectively organized political activism and work that is not activism per se, but "driven by the spirit of activism".[26]

In the context of the critical re-appropriation by artistic means that collective and participatory modes of production have enjoyed for the past few years, it seems to me like we need rather to consider Walter Benjamin's original plea for the author as producer from

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[24] tv-tv is not really a channel of its own but a local-TV license holder with a permission to broadcast 5 hours a week on Kanal Kbh – an open channel for people in and around Copenhagen. Hosting a number of other "stations" (license holders) both commercial and non-commercial. The station has no explicit connection to the well-known American video activist group TV-TV which operated in the 70's.

[25] See www.telestreet.it and Pasquinelli's "Manifesto for Urban Televisions" where he speaks of how the horizontality of the net must meet the socializing power of television, published at http://subsol.c3.hu/subsol_2/contributors3/pasquinellitext.html and elsewhere. See also Svensk, Fredrik "TV som protes till Internet", Paletten 2005 for a good analytical account of this movement and its influence on contemporary art practice. The idea of the net as a vanishing point for TV has also recently been further developed as an appropriation of Umberto Eco's and Francesco Casetti's concept of Neotelevisione, originally devised in the 80's as a concept to describe the Berlusconi mediascape. See Pecchioli, Marcello (ed) *Neo televisione -Elementi di un linguaggio catodico glocal/e*, costa & Nolan, Milano 2005.

[26] Enwezor, Okwui. "The Artist as Producer in Times of Crisis" 2004. http://www.16beavergroup.org/mtarchive/archives/000839.php , accessed 2007-05-22 .

the opposite position to that of Enwezor. My argument here is partly inspired by a short essay by Boris Buden where he criticises the way that theorists today repeat Benjamin's question of what the position of a work of art is in the relations of production of its time. Buden maintains that the usual option for discussions on political art today is to upgrade Benjamin's question to simply include the relations of production of "OUR" time.[27] However, this question is currently a dead end since for Buden, writing out of the post-communist East, "it is the general question of the material conditions of an artistic production that, under given ideological conditions, has lost its whole meaning."[28] The historically situated method of dialectic materialism is simply not an option today. At least not in the same way: there might not be any new answers to Benjamin's old question but if it is correct as Buden claims that Benjamin already answered the question himself, might there be new ways of interpreting his *answer* in relation to current production?

Let's reconsider Benjamin's critique of art that is revolutionary only in its literary "tendency" and relate it to the return of collective and participatory ideals of production in recent artistic projects. It may seem like this kind of art practice fulfils Benjamin's ideal model of the artist working from within the system as a kind of engineer that changes it through radical production. However, Benjamin's argument is that any "correct" political tendency automatically includes its literary tendency – two layers that come together in his idea of "technique" , a concept that "gives us the dialectical starting point from which the sterile opposition between form and content can be overcome"[29], comprising both of an understanding of technology and the means of production. The question then is if, in celebrating collaboration, participation and collectivist DIY modes of production, has the politically committed art scene produced a fetishization of the modes of production over the literary qualities of the work as well as over its technical means? This seems to be the case when participation and collectivity is presented as the actual content of the artwork – the mode of production transformed into content as in Bourriaud's highly formalistic concept of relational aesthetics.[30] This is not to say that such art projects do not have any content, it is just that the privileging of the mode of production as content means that the demands posed to would-be revolutionary art by Benjamin are reversed. The artist today is already especially good at fulfilling Benjamin's "single demand, the demand of thinking about his position in the process of production."[31] but this frequently seems to lead again and again to the question "What is to be done?", in an endless celebration of the "spirit of activism" without any political agenda behind.

Returning to the specific case of artistic TV projects and tv-tv, I wish to discuss how this situation might be started to be overcome. It is my belief that there is some potential for innovation in the specific way that TV art projects remediate the forms of traditional community media into the culture of new media. This potentiality is hidden in the way that such projects constitute experimental labs for the processes of transfer I spoke about earlier of concepts like participation, collaboration, the local and the global between the representational forms of state regulated media and the logic of new networks.

We will refuse ratings based on generalizations of what people want, and rather investigate tv as a setting for communication. (…) tv-tv is critical tv. We do not aim to reflect society, and we will try to abolish the 'viewer' as a passive consumer. We will not just produce tv: we will produce tv-tv.

In experimental television projects artists have the opportunity to work with the quintessential 20th century mass medium, subverting its capitalist and hierarchical "team-work" mode of specialised collective production as well as its standardized semiotics of predefined formats. This kind of experimentation also has a historical precedent in the activist video and TV-collectives of the 70's such as the American Videofreex, Paper Tiger

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[27] Buden, Boris. "Re-Reading Benjamin's "Author as Producer" in the Post-Communist East." 2004. http://www.republicart.net/disc/aap/buden04_en.pdf, accessed 2007-05-22

[28] Ibid. P. 3.

[29] Benjamin, Walter. "The Author as Producer", 1934, reprinted in New Left Review I/62, July-August 1970. Translated by John Heckman.

[30] Bourriaud, Nicolas. *Relational Aesthetics*. 2003.

[31] Benjamin, p. 7. (1934)

and TV-TV. A renewed interest in political art and participatory and collective production thus seem to be logically followed by a re-treading of these methods, in the ideal medium of television.

On the surface then, tv-tv along with other recent art and television projects[32] shares the same kind of fetishization of production modes as identified above. The lack of a unifying agenda which was present in many of the traditional community media projects used as points of reference, is evident also in the case of tv-tv where the most common problem is maintaining day-to day activities. Its producers find less and less time to the common administrative tasks and daily care of transmissions.[33] But just as tv-tv may be criticised for lacking the concrete political unifying agenda of its predecessors, the activist TV-Stop, so may TV-Stop in turn be criticised for not having realised their politics in the mode of production, which was as many other community media projects simply mimicking the hierarchical structure of traditional broadcast models.[34] However, TV-Stop, again like many other activist community media projects, started out in an ad-hoc de-centralized manner but found out that it had to adopt a more rigidly set production strategy if it was to become sustainable. Thus independently operating editorial groups were complemented by responsible "editors" and contracts for all workers, voluntary or not were instigated.[35] Does this mean that history will teach a centralizing lesson to the collective art projects celebrating decentralisation today? Must the structurelessness of organization be resolved through the institutionalizing and centralizing ways of the 70's-90's activism?

I believe that the above conservative conclusion would be unfortunate since it is not any longer solely against the backdrop of hegemonic state media or representation through television as mediated public sphere that a project like tv-tv exists. To use the phrase of media historian Siegfried Zielinski, "the vanishing point" of television should be observed against the field of digital and networked media which television is converging into. Thus a project like tv-tv cannot be thought of as outside to this process. Artists reinventing the language of television are not simply repeating the concepts of community and alternative media movements of the past but, and maybe this is the area where the real potential for radical technique lies, their projects exist in a state of transformation between the representational models of traditional broadcast media and that of the new networked configurations demanding other organizational structures.

This transformational logic at work can be observed in the way that tv-tv handles incoming requests to cover different events and happenings. For example a political group wants tv-tv to cover a demonstration they organize. This approaching of tv-tv as a political news medium giving room to left wing groups and alternative culture stems from the fact that it is connected to the history of the activist channel TV-Stop. Dealing with this heritage is ambivalent for tv-tv. Some people at the station work under the conviction that there is an informal contract to continue catering to some of the target groups of TV-Stop. It is clear however that the way of producing TV have changed and therefore to some extent also the politics. Instead of working with heavy TV-camera set-ups in the studio, tv-tv has scaled down to small portable cameras and the same scaling down goes for editing and other equipment as well. The idea is also not to mimic the big broadcast players but to allow for flexibility and spontaneous production.

One question raised back from one member of tv-tv on the request to cover the demonstration went along the lines of, "ok, we can give coverage to this group, but what will they give back?". Asking what the group approaching tv-tv will give back should not be seen as a selfish or arrogant act in this instance but as an invitation. If the slogan is "everybody can make tv" then why should not the group be able to produce the representation of their action themselves, using tv-tv as an infrastructure both on a

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[32] CAC TV, GoodTV, Rirkrit Tiravanija, Telestreet etc.

[33] The tv-tv mailinglist most recent discussions are specifically about "structurelessness" and debates go for and against centralizing or even stopping altogether. A cited reference point has been Jo Freeman's 1970 text on the American women's liberation movement 'The Tyranny of Structurelessness' online at http://www.anarres.org.au/essays/amtos.htm

[34] When I here talk about tv-tv and TV-Stop as if they were themselves subjects, I of course make the critical mistake of not seeing these projects through its individual practitioners with all their differences. This will be a challenge for further, more empirical research.

[35] See for example entry on Tv-Stop in http://www.leksikon.org/art.php?n=2614.

technological as well as a critical conceptual level? This is a scenario of organizational downscaling through networking which is potential at tv-tv although not completely possible in the current models for production.[36]

A program that went to some extent in solving this dilemma between representation and organization was "Letters to Ungdomshuset" initated by the editorial from the Copenhagen Free University project. During the eviction of Ungdomshuset, the squatted building serving as a subcultural youth house located in the same area as tv-tv, the tv-tv studio was opened up for activists who wished to send video messages to all their friends who had been jailed during the ensuing demonstrations. This was possible since the open channel which tv-tv transmits on also reaches the TV's in the actual prisons. At a first glance this can be regarded as a classical community TV-project where local people are temporarily invited to present themselves in the professional TV-studio. But here we have to remember that the nature of this assembled group of activists was in itself temporary, consisting of a translocal network in which many had gathered specifically for the sake of defending Ungdomshuset.

Instead of thinking of this group along the hip idea of the multitude, the old "community" might actually be more appropriate, dealing as we are with a relatively homogenous collection of young radicals. This community however might be thought of as "networked", temporary in its organizational temporality and translocal in its geography. Further, the project actually led to a new editorial group being established at tv-tv by some of the activists who got involved through the first transmissions – now working consistently with the focus of prison-TV. In this way, an initially temporary media intervention into a more or less informal network was assimilated by parts of the intervened network and acquired a new status of sustained action.

Yet, is it enough to only consider this process of sustainability on a conceptual level? If artistic TV projects would like to be the alternative media of the networked age do they not also need to integrate into practice an understanding of the actual changing materialities of production in these different frameworks? The new web 2.0 services like YouTube and countless others have a certain freshness to them. They do away with the bureaucracy surrounding citizens media and allow instant, distributed publishing. In bringing more spontaneous production methods to community media tv-tv mimics some aspects of the Web 2.0 culture. Maybe it is no wonder that many community media projects following the traditional model are facing difficulties of surviving in Denmark, after all many of the more radical ones like TV-Stop have actually stopped.

New artistic TV-projects like tv-tv are based on a critical appropriation or "subversion" of the latest consumer technology and has its historical precedent in earlier media activism and alternative media movements. But is it still possible to look upon technology as only a tool for creating *different* kinds of representation? Hasn't technology itself also become an important issue for what kinds of representations are possible? This is my interpretation of the demand posed by Matteo Pasquinelli recently to media workers (or what he refers to as the "cognitariat") to mobilize out of the imagery.[37] I hope that my examples have shown that this doesn't mean that projects like tv-tv should simply stop. That would be to confirm the suicidal tendencies of a phobic artworld through "artistic critique", as a self-disarming at the face of capital. Remember my initial discussion on the tendency today that we are moving towards a media economy that brands itself on those very same ideals that alternative movements traditionally have been advocating such as DIY production, participatory media, personal as well as collective expression. I'm not arguing that it's these modes of production per se that should now be refuted due to their commercialisation. Instead I'm proposing that artists extend their tactical as well as strategic appropriations of these modes of production to also include the technological aspects which should already be implicated in the politics of these modes of production. Meaning that any alternative media project of today would have to take into account the

[36] There is as one member told it an "informal centre" which gets increasingly more centralised as it needs to take care of all the administrative tasks of running a space, while all others get "independent" or drop off.

[37] Pasquinelli. (2006)

more intense level of incorporation and rethink the base for public access to technology as an expansion of alternative strategies of representation.[38]

In the strategic alliances between artists and activists, with the attractive idea of establishing counter publics[39] in mind, it seems to me that it is this technological understanding of production that is often missing. tv-tv may combine forces with the so called precarity movement which in turn may connect to more traditional union movements – and as in the examples above, some fruitful representations and self-organizational projects may come out of this mediation. This is due to the regulative power of community media combined with a new networking logic that I wrote about in connection with tv-tv above. However this organizational network logic must also understand its own technics in order for it to be sustainable. This is where new connections need to be made.[40] I'm thinking here of examples of media projects that try to stake out an alternative approach to networked mediation, such as the emerging groups in Spain with renewed interest in the concept of "Web-TV" and Internet Radio, without the corporate hype and based on open-source software and radical "free" cultural politics.[41] The alternative streaming network Giss, the activist media platform sindominio.net and the Barcelona based horitzo.tv are now converging around the building of a new cultural center in Zaragoza, "Gohan", which to my knowledge will be one of the first art, and technology institutions completely built on the principles of the critical free (libre) and copyleft culture. Coming out of the open hardware community surrounding the Arduino circuit board[42], Gohan will work with open hardware as well as software. This development calls for more multi-dimensional approaches to the "alternative" by artists and culture producers engaged in the remediation of community media modes of production, with the possibility of creating sustainability through cross-fertilizing different methods and structural frameworks.

tv-tv is everyone's television. Today it has become easy to produce tv. Technical innovation has made it possible to produce television with your own equipment. We will use and misuse all possible tools to make tv. tv-tv is broadcast quality on our terms: everyone can make tv.
(from the tv-tv manifesto, 2005, my emphasis)

Postscript: Beyond Dissolutionized Dissent

By being set in the strategic world of regularized community media, while at the same time being guided by an outlook to the modes of instant and deregularised production of the new media, tv-tv exists in a virtual in-between space of these two worlds. It is when we think of the new community media as an in-between mediator or rather modulator of these worlds that something akin to the sought after integrated technique of Benjamin's Author as Producer, and thereby the contours of a DIY production which is not D.O.A. but exists "on its own terms" might start to become visible.

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[38] This might seem like an utopian project but that is part of the broader problem of the idea of an alternative media. In this paper I'm not concerned with the (–im)possibility of autonomy but rather in analysing the practice of media production which stakes out to be alternative to any position of the "mainstream", commercial or state media, be it on the level of production, distribution or expression.

[39] Warner, Michael. *Publics and Counterpublics* New York: Zone Books, 2002. and also Sheik, Simon "Representation, Contestation and Power: The Artist as Public Intellectual" http://www.republicart.net 10_2004, accessed 2007-05-22.

[40] And here my following examples are deliberately very limited in scope since I've been talking about media production and not the myriad of other areas where critical art practices apply. However, might the delimitation of "media" become increasingly useless in societies where mediation become inseparable from reality itself? Zielinski intriguingly writes of how the 20th century: "needed media like no other before. It was a century that spawned so many violent caesuras, so much destruction, and so many artificial, that is, humanmade, catastrophes. The twenty-first century will not have the same craving for media. As a matter of course they will be part of everyday life, like the railways in the nineteenth century or the introduction of electricity into private households in the twentieth." Zielinski, Siegfried. *Deep Time of the Media – Toward an Archaeology of Hearing and Seeing by Technical Means*. (2006) To this testimony one might put up all the recent areas enjoying renewed interest in experimental art practices, most notably that of systems of alternative education, an increasingly central question in the knowledge economy. See: http://summit.kein.org, http://www.edu-factory.org/, http://www.freefloatingfaculty.org/ http://www.copenhagenfreeuniversity.dk/ to name but a few.

[41] Horitzo.tv, sinantena.net, Gohan: http://gohan.sourceforge.net/ , the giss project: www.giss.tv.

[42] One of the main inventors of Arduino, David Cuartielles, is also the project manager of Gohan. Interestingly alternative "Web-TV" will be one of the focus areas of the centre.

Yet, a question which still seems to haunt this mode of production in contemporary theory as well as practice is that of sustained networked organization: anti- or pro-insitutional? In the end we should maybe consider not to resolve this question in the usual taking of sides. It is Siegfied Zielinski as an attentive historian that leads the way by reminding us of the "bizarre economy" of French painter Pierre Klossowski who declared the human body "live currency", itself the object of exchange. This he states as a way to work against the "cultural pessimists' lament about the commercialization and the resulting mechanization of the body".

Klossowski/Zielinski instead directs our attention towards the autonomously productive potentials of "waste" as the inevitable by-product of any experiment.

The experiment, the precondition of which is efficiency, presupposes the wasteful mistake. To explore in experiments what may result in profitable production is geared to the elimination of infertility in the product but at the price of wasting material and human labor (production costs).
(Klossowski, Pierre. Die Lebende Münze. As quoted in Zielinski (2006) P. 279. My emphasis)

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* lyrics by Paul Weller, "In the Crowd" from the album *All Mod Cons* by The Jam 1978.

Re-thinking network theory and analysis concerning social care networks in the Internet age. A case description

Alice Verheij

For my PhD research project I am studying structures, influences, limitations and challenges concerning organizations and networks involved in social care for gender dysphoric people. By it's nature the transgender community is a closed community making extensive use of the possibilities of the internet for knowledge gathering and sharing and self-support. To perform a network study in this environment it needs to be executed 'from the inside out', meaning one needs to be part of the community. A large part of the study is concerned with peoples experiences with social care processes also through internet fora and knowledge sharing websites. Especially the influence of these on the regular health ad social care is a research goal with specific challenges to the researcher. Does this all require new ways of network research and a new network theory?

Desire, Dissent and Differentiation: Sustaining Growth in Virtual Networks

Kimberly de Vries

Dear Readers

What you have right now is approximately what I am planning to say in my presentation. Whether this is what I actually will have said is another question entirely. It's what I'm planning. Beyond that, all bets are off. Also, it's a hybrid papers, teetering between a rather intimate auto-ethnography and more conventional, academic, distant writing. Finally, this is only what I plan to say, so it leaves out most of the more abstract theory, because who wants to sit through that, after all? However, we need a little bit of theory, a *smidge*, to get started.

Theoretical Frame

As the population of Internet users has grown, many online communities have far outgrown the original purposes of their founders. They have changed to meet the needs of new members, and the changing needs of older members as well. Though individual communities have been studied, most are so individual that comparisons are difficult and thus drawing general conclusions that may be applied to any other groups is difficult as well. More importantly, though use of the phrase "virtual community" is now commonplace, real questions have been raised about whether this has ever been an appropriate term with which to describe the ways people arrange themselves in online groups.

In his book *The Internet Galaxy* Castells argues that individualism is becoming "the dominant trend in the evolution of social relationships" and that this is supported by the Internet (128-129). He also claims that some of the communities that have been studied and profiled so far--The Well, Nettime, various fan communities (Rheingold, Lovink and Rossiter, Jenkins)-- are atypical. Castells argues that unlike these examples in which online interaction occurs in tandem with offline physical encounters, most online communities are "ephemeral" and yet may be as cohesive as physical communities. As I will discuss, my own experience and observations suggest however, that the atypical model, the parallel of online and offline interaction, may indeed contribute to the survival of an online community (De Vries). Or it may be that offline interaction merely correlates to some other factor in the community more directly linked to its success. Further, characteristics of the offline community that has spawned the online version also may determine how well a virtual community weathers growing membership, increased visibility and other pressures. This however is difficult to determine when we look at one community at a time, or in isolation.

We may learn more about how these networks function if instead of looking only at one at a time, we look at several that share at least some characteristics and perhaps some members as well. In this study, I am looking at three groups, each sharing some traits and members, and each having existed for at least five years. I chose these communities for several reasons; those I've just mentioned, but also because I have spent some time as a participant in all three and am intimately connected with one, Sequential Tart, for which I have been writing since early 2001. As I've carried out this research, which is still ongoing, I have learned something about how the choices of the community founders have allowed the survival and success of these communities. However, one of the most interesting revelations has been how the origin of these communities from the comic book industry and fan-base seems to have contributed to their success, suggesting that community members prior experience of live communities may shape their behavior in and expectations of online communities. --This is really no surprise, but perhaps some kinds of live communities, because of their original structure, have made the transition more easily. While the communities I will discuss may be usefully viewed through several lenses -- as fan communities (Jenkins, Foster, De Vries), as fetish communities (Hill), as open-source communities -- we don't have time here to cover all of that ground. Here I will start with

parallels to open-source communities, as that parallel has been largely neglected, and then return briefly to fan communities. Now we will shift to a topic dear to my heart, comic books.

Unlike many other forms of entertainment or publishing, the comic book industry has always been characterized by quite porous borders between fans, creators and publishers; a do-it-yourself approach; and a complicated, ambivalent relationship with copyright laws. Since the golden age of American comics at least, fans of and participants in this industry have long been grappling with issues often assumed to have been made prominent by the expansion of the web. Familiarity with these issues and already existing social structures around them appear to have contributed a remarkably smooth transition to the Web and success in that medium.

Comic book creators[1] have never needed institutional credentials to get started. Even the major American publishers, Marvel and DC, still find new talent by trawling conventions and now, websites, for talented writers, illustrators, inkers, etc. Because fans become creators with relative ease, they feel a far greater sense of ownership over the media and tend to be more active in related organizations or communities. At the same time, because publishers have a long history of abusing the rights of individual creators, and comic history has been peppered by many bitter and highly publicized lawsuits, both fans and creators are far more aware of intellectual property issues. In fact, legal disputes over rights are such a problem for individual writers and artists that many well known creators and publications, including those mentioned here have commented publicly on the problem in an effort to educate others. In these ways the production of comic books and the activities of fans sometimes share characteristics with both open source projects and hacker communities--two groups that Castells argues have strongly influenced development of Internet culture.

Sequential Tart -- Chicks Dig Comics

Sequential Tart started in 1998 as a response to the American comic book industry's disregard for women readers and creators, and at the same time, their stereotypical representations of women characters. At the time, the Tarts represented a marginal group within the already marginal subculture of comic book fans. As founding member and now Chief Editrix Katherine Keller puts it:

We were sick and tired of being told (as it were) what kind of comics women liked or would/should like. We weren't reading a damn one of them. We were sick of hearing about SIP and Bone. Fuck that. We were reading Preacher, and Hellblazer, and Invisibles, and Starman, and we knew a lot of other women who were reading (and loving) the same comics. We liked violence, blood and gore. We didn't like "nice" books. (Keller, personal email 3/26/02)

So Keller and some other like-minded women, mostly in their early 20s, created their own online journal in which they praised the comics they liked, mocked those they didn't, analyzed aspects of the industry and of pop culture more generally, and ultimately have become rather well-known (Jenkins, De Vries). Tart has always been a work of love, depending on the volunteer efforts of women who can write, or code, or create graphics, or otherwise contribute needed labor. In its early days, each monthly edition was jointly authored via several mailing lists, one for discussion among all members, one for monthly staff, one for submissions, and one just for editrices. The editrices then coded the html pages by hand, which was enormously time-consuming, even after they taught even the least technically inclined Tarts to use the 'zines standard tags. An even greater burden fell on Lee Atcheson, who has been webmistress from the start. She created the entire Tart website from scratch, hosted it on her server, which she also administered. This continued until 2002 when she created (again from scratch) a web-based system for submitting reviews that maintained a database of information entered in each text field. For example, once information has been entered for the DC/Vertigo comic book imprint, it need not be re-

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[1] In the comic book industry, creator is used as a term to cover both writer and artist since many people do both.

entered for subsequent reviews. In 2006, a similar system was created for the rest of the content as well, including monthly columns, convention reports, and other regular features of each issue. Once each writer input their work and an editor ok'd it, the content was wrapped in standard pages automatically, rather than having to be hand-coded every time. These changes were necessitated by the increasing demands on the staff's time, and especially on Lee's, from work, families, and other responsibilities—in other words, we were all growing up. So we see another similarity to FLOSS culture as it has turned out to actually operate. In spite of claims for the "bazaar" model, most FLOSS projects are actually run and built by one or a few core people and this certainly has been true at Sequential Tart. But, that model is very difficult to sustain, so we have moved to make contributing content at least, much easier in a technical sense. This year Lee is also working on setting up at least one other Tart to assist with web development as well, and training others is now something we are trying to actively pursue, rather than relying on the ad hoc approach. So that's Tart from the inside, but what about our readers and participants that aren't actually on the staff?

Sequential Tart initially attracted readers because on the one hand they offered bitingly funny jabs at the industry, such as illustrated here in an installment of the long running "Bizarre Breasts" column:

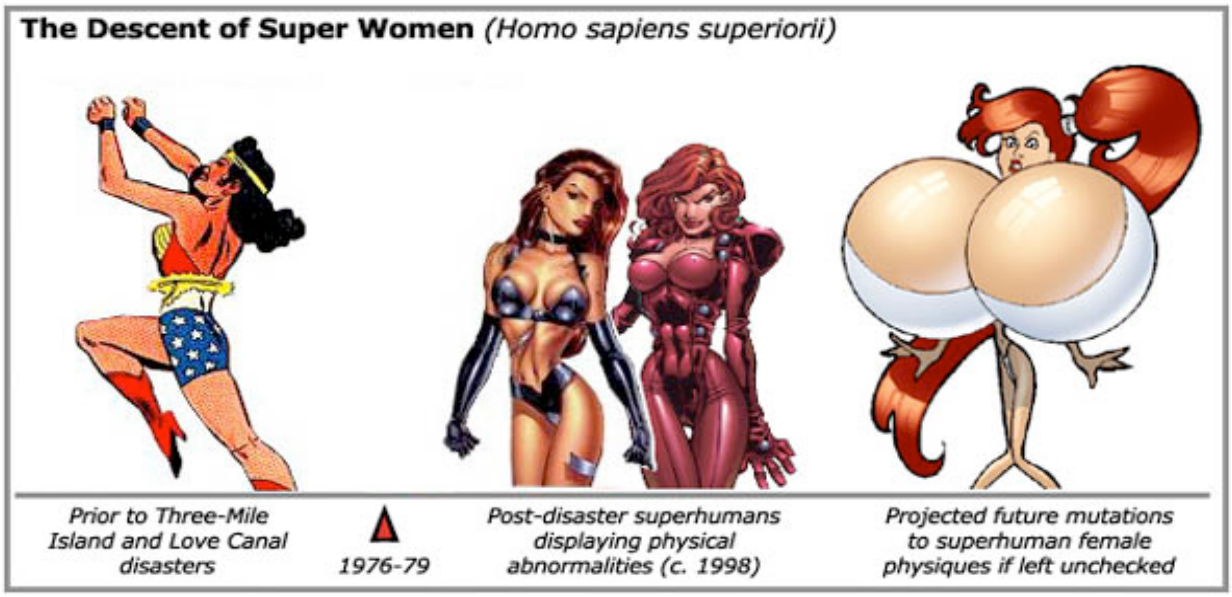

Illustration 1: Wonder Woman #166 by Ross Andru and Mike Esposito. © and TM DC Comics, Inc. Image #2: DV8 #22 by Joe Madureira. © Wildstorm Productions. Image #3 (chart): Avengelyne: Armageddon #2 by Scott Clark. © Extreme Studios. Future Heroine by Lisa Jonté. Used without permission for parody purposes under the Fair Use Act

According to Lisa Jonte, the "researcher" of these mutant superheroes, "While some heroine's breasts are merely abnormally large, some are so distorted that they appear to have become separate entities from their host bodies, with an all-round cleavage that suggests that said breasts are in fact completely detachable." ("Bizarre Breasts," *Sequential Tart* 7/01) The writer did not spare the embarrassment of the illustrator (Scott Clark) responsible for the central pair of ...superhumans which are from a real comic book; she lambasted him for his complete inability to produce anatomically plausible women.

While our articles, reviews, and rants can be quite "tart" as it were, Tart does not insist on any particular attitude or position from its writers, and will publish and respond to just about any letter or email readers submit. A similar openness can be found at "Tartsville," the bulletin board system attached to Sequential Tart. In fact apart from a basic level of courtesy, the one rule could be expressed as "support a poster's identity as he or she presents it." Following this rule has allowed members to productively discuss quite difficult issues, present themselves in a more "real" way[2], and may be responsible for what I would describe as remarkably ego-less management of the organization. Because no one seems to feel they have to defend their "territory," Tart has been able to reorganize it self several times with ease. Editrices have swapped assignments to avoid boredom, some have stepped down when other commitments required more time, and people have taken on new responsibilities like creating and updating a Wikipedia entry, a MySpace Page, and experimenting with new ways of offering content. So Sequential Tart attracts writers and readers because it presents an alternative to paper and webzines that are both corporate and sexist (not to mention racist and homophobic). These people stay around because Tart is friendly, supportive and flexible and because we all believe firmly that the most important things we do are get more people interested in comic books and draw attention to the creators and titles we think deserve it.

Finally, and it may at first sound shallow, but many people join the community around Tart because they are trying to find others who share their interests and the Tarts, by virtue of their existence offer hope of this. Many comic book fan communities are characterized by sexist, homophobic, and often racist behavior, and are plagued by flamewars between people (usually men) bent on proving themselves the most expert on some topic. Further, Tart offers hope (mainly to men) that there are women who like comics and understand the importance of collectible action figures. Members of the comic book sub-culture often experience being marginalized and mocked in the American main-stream culture and thus are hungry for community. Once finding one, they tend to be intensely loyal. This aspect of interest can easily be observed at any large comic book convention in the US. For example, at the San Diego ComicCon, the Tart staff usually turns out in force, has a special dinner, attends other events together, and may gather in the evening to swap whatever cool comics were acquired that day. Many bulletin board posters also arrange to meet up with us and by now these events have sometimes taken on the feeling of a family reunion.

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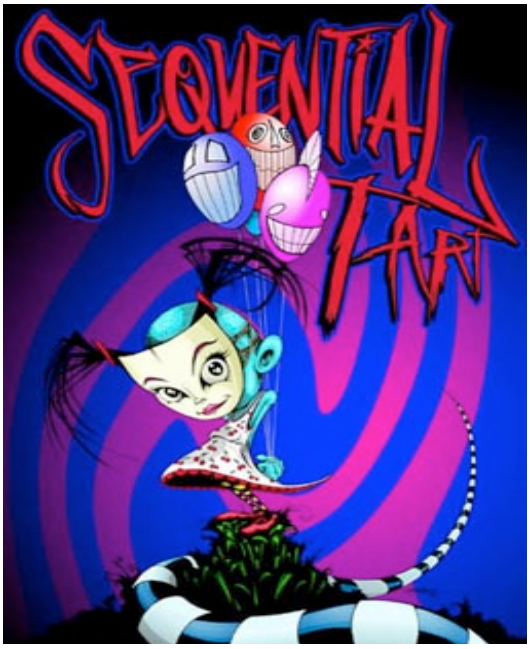
[2] By real I mean both closer to their physical appearances and to their legal identites as well.

Illustration 2: December 2003, Colleen Coover

At this point I will almost certainly make some kind of off the cuff remark, probably more about it being a labor of love. Meanwhile, enjoy a cover created by Colleen Coover envisioning a Tart. So, the most crucial factors behind Tart's survival and success appear to depend on three very different aspects of the site, one technical, two social. First, through the innovation of members with the relevant skills and because we recognize the value of collaboration, women can join and contribute to the monthly publication with ease, and there are venues for men as well. Second, and perhaps more importantly, every one in the whole community, including the publication and the larger group that participates via the bulletin board, supports each other both online and off. Finally, something I have never heard of happening in any other group, members move up and down through the hierarchy without any of the acrimony that often accompanies redistribution of authority in communities or groups that lack formal organizational structures. For example, last year an editrix who face too many competing demands from work stepped down to the level of contributing Tart, which means that she doesn't have to contribute every month, but also doesn't share much in decision-making. This was a step she decided on and to my knowledge the transition didn't involve any arguments from anyone, either for or against. Time for more more off the cuff remarks, probably emphasizing how I think this reflects a hacktivist sensibility in certain ways, but not others. More visions of the Tarts:



Neil Gaiman -- Followers of the Dream King

Neil Gaiman's fans are among the most loyal in an industry where fan loyalty is known to be extreme. When he gives a reading, the audience usually numbers 500 or more, which in the U.S. would be startling even for someone *really* famous, like the authors featured on Oprah, or who have bestsellers lining the shelves of airport newstands. Gaiman is neither of those, but he has participated in some kind of online community since 90s when he was on Compuserve. At that point he was mainly known as a comic book writer who had helped to attract a new generation of readers through his Sandman series, published under the DC/Vertigo comic book imprint.[3]

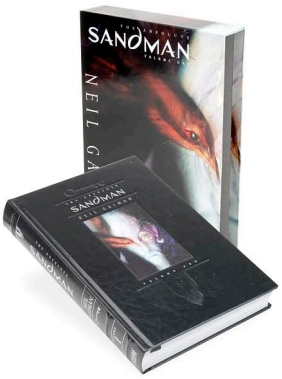


Illustration 5: The Absolute Sandman, Volume 1

However, in February 2001 Gaiman started a blog while writing the novel *American Gods* which gave readers a glimpse inside his writing process and his day to day life. This blog eventually grew into the now much more extensive website, neilgaiman.com. Gaiman gives some of the usual reasons for blogging: keeping friends and family up to date more easily than with email, and wanting to record his thoughts. But he also makes clear that he wants his fans to know what he's really like:

Well, one reason I've kept this blog up is that, in a lot of ways, it helps undercut all the Cult Of Personality stuff. While it's probably much easier if you want to be a hero just existing in people's heads, being whatever they want you to be, it's also more than a little odd, and probably very unhealthy. I'd rather, at least as long as I keep up this journal, try and remain as accessible as I can while still being able to get the work done and have some privacy; I have no desire to be anyone's hero. ...I didn't sign up for this to be a hero, or any of that nonsense: I'm here to tell stories. And the stories aren't me. (October 29, 2004)

In addition to writing about his daily life, Neil also plugs people, books, websites, events, causes, or anything else he feels should be broadcast to his audience, many at the request of readers. He also answers questions readers have posted, rather than allowing comments. One reader asked him about his reasons for this and he replied at some length:

Mostly, it has to do with the fact that a) it evolved this way over the last four years and it seems to work, and b) I've been part of online communities a few times over the last two decades -- primarily Compuserve in the late 80s and Genie in the early 90s -- and I know how much time it takes to do it properly.

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[3] It's worth noting that in spite of cheaper trade paperback collections and widely circulating torrents, fans are happily shelling out $99 a piece for each volume.

I can just about manage to find the time to keep this blog/journal/diary/thing as a monologue with a certain amount of question-answering whenever I can fit it in. I wouldn't have the time to devote to it if each post became a dialogue, and in the blogs I admire that do have response structures (Teresa Nielsen Hayden's marvellous Making Light for example) the feedback-interaction is where all the interesting stuff happens. www.Neilgaiman.com has its message board over at http://www.neilgaimanboard.com/6/ubb.x which I feel discharges my karmic wossname). (April 24, 2005)

In fact the structure Neil has chosen mirrors the way he now often handles readings; instead of taking questions directly from the audience or trying to deal with them while signing whatever people have brought to have signed, he collects them ahead of time and then gets through as many as he can in between reading excerpts of whatever book he's touring to promote. He adopted this approach to the readings mainly as a survival tactic, to avoid repeatedly staying until 2am signing books and because his fans more than anything else want Gaiman to keep writing—books, that is—no one complains about this strategy used live or on the blog.

And while plugging other sites may sound like a minor way of involving other people, in fact Gaiman's fans are so willing to support the people, groups, or causes he recommends that they have contributed materially to the success of small presses that were in trouble, to comic creators who faced tough times because of some personal crisis, and (less positively) have crashed the websites of many of those to which Neil linked.

Of course there are other more obvious reasons the fans keep coming; Neil makes clear he cares about them; he shares gossip about other comic creators, such as pictures of Alan Moore's wedding; he's funny; offers lots of free downloads of his own stories, audio, and video; and takes a reasonable view toward people sharing his files. Gaiman's view on filesharing is actually quite complicated, so I won't attempt to describe it completely here. For our purposes, the most relevant points are that he encourages people to copy material they've checked out from a library, but not to then give it to everyone else--they should go to the library themselves. He has no quarrel with people writing stories, making t-shirts or otherwise adapting his works, as long as they don't sell them, and even here, he appears to be more concerned that people will get themselves in trouble than about being cheated out of something. He also pushes anyone involved in writing, art, comics, etc. to be careful about how they arrange their own rights to their own work and is a passionate supporter of the Comic Book Legal defense Fund which acts to protect comic book creators' First Amendment rights. Finally, a point that comes up rather often on message boards and mailing lists, he's quite attractive which certainly accounts for some people's devotion, at least in part:

Illustration 6: Taken 2007, by Philipe Matsas

We see some similarities between the way Tart operates and the way Neil Gaiman handles his site. Though Gaiman's content is mainly generated by him and the focus is on what he thinks, the atmosphere is similar to Tarts in being friendly and open, and of course all about promoting comics. Visitors find someone who talks a lot about his kids, pets, love of sushi, and recently acquired beehives; cleaning up cat-vomit at 3am; and who shares many of their interests, writing about the nifty things he's found online, or that people send, or that have been brought to his notice by fans. And Gaiman clearly cares about his fans, both in the way he answers their questions and in his near legendary willingness to stay late at signings so that everyone who waited gets a chance. And finally, he makes an effort similar to what is seen around Tart to present his real self, which reinforces the connection to fans.

But how does any of this parallel the open-source community? What I've begun to realize, reading not just reader questions and comments that Neil posts, but also looking at his bulletin boards and what they link to, that the community itself and the identity of "Neil Gaiman fans" is treated as an open source project. The way that fans share not only wallpapers, fan-fiction, and critical theories about Gaiman's texts, but also how to get his books carried by the local library or used in schools (which we might even describe as a kind of social hacking); where to stay when traveling to see a reading; and where to find or how to make other desired objects -- especially action figures and costumes. In fact, many posters on the bulletin board will arrange to meet when traveling, not just for Gaiman events, but in general, particularly if they are traveling internationally. So we see that the community itself becomes the project.

Warren Ellis -- I am beaming Sex Rays across the world and my brain is all lit up with Holy Fire. If I felt like it, I could shag a million nuns and destroy their faith in Christ.
From my chair. (Bad Signal 2003, reposted at warrenellis.com)

Warren Ellis has been writing comic books since the early 90s, but is probably best known for his series *Transmetropolitan*. Gonzo journalist Spider Jerusalem storms through a dystopian future strangely enough in pursuit of justice (and revenge, and drugs...).

has also been online for many years, first as the moderator of a series of forums loosely organized around comics, and then as the author of numerous blogs at first glance seems to take a very different approach from either Sequential Tart or Neil Gaiman. He exercises his acerbic humor on anyone he feels deserves ridicule but also keeps up a sharp and thought-provoking cultural commentary. For example, Ellis has been pretty skeptical about Web 2.0:

Web 2.0, at its heart, is an attempt to bind us back down to our desktops and force us to tidy up our shit and arrange it nicely. From del.icio.us to Structured Blogging to DLA to 47 Things and Backpack and all -- it's all an ongoing attempt to take the Wild West out of the web experience and make it all nice and orderly and organised.

...

I fucking hate it. (January 2006)

The community around Ellis consists of three distinct groups: those who actually know him and might be called friends or colleagues in the traditional sense, novice comic book creators hoping to be noticed and promoted, and many many admirers who are "friends" in the sense of clicking a MySpace link and posting to Warren's message board, The Engine, in the hopes of some response. The combined community is enormous, in part because Warren is promiscuous about social networking (to paraphrase his own frequent and more graphic comments) and partly to discourage impersonators. Currently he is on the Internet in the following places/ways, which Warren describes rather flippantly:

Bad Signal email journal-- "Often I will be drunk. Sometimes I will be naked. People on Bad Signal tend to cry a lot."

warren-ellis.livejournal.com -- "I use for short bits of fiction and messing around with the 3000 LJ users who have the page in their friends list." --Currently boycotting.

http://www.myspace.com/warrenellis -- "I add anyone, me. I'm tempted to start a religion there, but Rupert Murdoch would come for me. And nobody needs that. In any way."

http://www.subkultures.net/warrenellis -- "(because the system looks interesting to me)"

http://www.mynetspot.org/warrenellis -- "(because someone asked me to)"

http://www.flickr.com/people/warrenellis/ -- "My friends-and-contacts list there is usually full of interesting stuff, as I know many ~~mentally ill~~ lovely people."

http://www.last.fm/user/warrenellis/
http://www.facebook.com/profile.php?id=500486523 (bloody useless though it is)
Just discovered I'm still here: http://iamwarrenellis.bebo.com (People keep asking about this one: someone gave me a free trial account for Suicide Girls, I didn't keep it up once it expired, and I understand people on the groups there have been asking after me. So that's the whole thing.)
http://warrenellis.zaadz.com/ (beats me, just noticed I had an invite in April)
http://www.linkedin.com/in/warrenellis (?)
The Engine -- "devoted to comics (and music and other stuff)."
Die Puny Humans -- "devoted to tracking outbreaks of the future."
http://www.bloglines.com/public/warrenellis -- "daily reading list."
warrene @ aol.com.
"In fact, the reason I establish a presence on so many of these systems is to ensure it's hard for someone there to impersonate me…!" (June 2, 2007)
Unlike Gaiman or Tart, Ellis encourages his own mythology without apology, and many of his fans and friends take a similar tack with their own self-presentations. For those of us who first met Ellis through *Transmetropolitan*, the similarity of his voice to Spider Jerusalem's was a little weird (in fact, I thought Ellis was writing in an tiresomely affected and artificial way) until eventually we realized that Ellis was not affecting one of his character's voices, but rather that his character had been speaking with Ellis's voice. This is not to say that the character and Ellis are the same; Warren Ellis is married, has a child, and seems to have little trouble (provided sufficient coffee and cigarettes) in writing vast quantities.

While Ellis does sometimes refers to his daughter, unlike Gaiman he doesn't fill his blog with mundane details of his daily life. Instead he only posts pictures and brief comments on things he finds online or that readers send. This sounds similar to Gaiman, but most of the pictures are weird at best, and often appalling, while his comments are often insightful, but always cranky, or even enraged. This blog is not work safe; the blog itself is peppered with profanity in large fonts and the images range from disturbing to somewhat crude, as illustrated by the example in illustration seven, headlined as "The First Thing I see This Morning?":

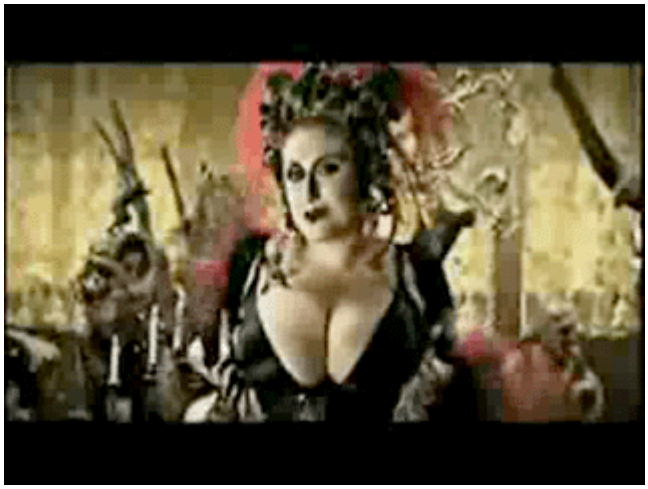

Illustration 7: Lenora Claire appears as "The Muse" in the Dean Karr-directed music video for Billy Talent's "Fallen Leaves". (December 1, 2006)

Warren has little sympathy for complaints about the site's graphic content; in response to one such message, he wrotein January 2005: "No, this site is Not Safe For Work. Complain and I'll make you look at the Batcock photo I used to use on diepunyhumans.com for this purpose. What's that? What did you say? Oh, I see how it is. Batcock not good enough for you, eh?" accompanied by the following image:

Illustration 8: Ellis didn't cite the source for this one.

I think this image is actually less disturbing than the "batcock" example--some kind of bat with a large, erect penis which Ellis posts every few months just to keep people on their toes. Ellis usually doesn't comment on these images much, so it's hard to say why exactly they are included other than to make sure the blog remains "unsafe," but they are often tagged as "research," and certainly readers of *Transmetropolitan* would notice how much they seem to echo the fictional world Ellis created back in the early 90s. And what about readers, why do so many want to see and read this kind of thing? In fact, Ellis averages around 150,000 hits per day, as of November 2006, and as reported to Ellis by warrenellis.com's hosting company, Dream Host[4]. I know quite few people who read this blog, as I do, and I think we are mostly not a bunch of psychopaths, so why do people read and send Ellis material?

Readers offered the following reasons for appreciation when sending donations to help Ellis pay for the site:

The sheer hard-cocked joy of reading warrenellis.com
- being a fabulous wanker
- bringing much horrified amusement
- Not putting anymore Jap porn on website
- Keeping me up to date on pornographic trends in Japan
- giving us something to stop from pulling the trigger
- Confidential Services
- Grumpiness
- web filth (received various versions of this one)
- his unique personality
- Being a badass (also various versions of this)
- things crazier than working in the world's largest nuclear weapons depot
- vast vistas of entertainment
- Lopsided Curmudgeon's Filthy Bandwidth Fund
- brain enhancement
- Loan of Filthy Assistant Please
- Cane upkeep and repair
- that blowjob down in Brixton a few years back
- Disgusting Pictures

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[4] In May 2005, Gaiman reports neilgaiman.com getting over 11,000,000 hits per month; Sequential Tart is averaging 30,477 per day for June 2007 (as of June 15).

- Rocking out like a rockstar
- being lovely and twisted, which is all too rare these days (May 17, 2005)

If this tells us anything, at most we see that many readers like to adopt the same tone they enjoy reading, but that still doesn't explain the attraction.

Looking at what Ellis has written elsewhere may shed light on why he is so admired. Though on his blog Ellis mainly treats readers to short bursts of irritation, in other venues he makes clear why he is so pissed off. One reason is the way large comic book publishers treat their employees. December 2000 in an online column he was writing, Ellis addressed his fellow comic book creators over ongoing stupidity in how some of them were handling their intellectual property and not understanding that they were often exploited by the big publishers:

Shut up. I'm *talking*....

...They will not own that work they do. At one major company they will not be paid royalties, but "incentives", for the word "royalty" implies that they may have some claim to be author of the work in question. Nor will they be paid foreign reprint fees or royalties. They may never be told when and where their work is being reprinted. If they are servicing company-owned concepts, then they will receive no money from other-media use of their ideas. Their work will be largely printed to order, and it remains to be seen (at this date) if any of the major companies will follow through in getting that work to venues other than the direct-market comics store.

There's no excuse, these days, for not knowing what you're getting into when you work on company-owned properties.

At this point, everything I'm doing is either creator-owned or "creator-participation" - which means I and my collaborators get more control and a much bigger slice of the revenue pie than a regular company-owned project

The company doesn't give a fuck about you. It will always find other people to service the trademark. If you don't have original work in you AND the drive to see it produced - bye. You're of no use to anyone, least of all yourself.

This rant expresses anger against both the publishers for their exploitative behavior and even more against his colleagues for the ignorance that helps keep the system going. It was written by Ellis, but could as easily come from the mouth of Spider Jerusalem, who often railed against both corrupt corporate and governmental powers, but as angrily denounced his fellow citizens apathy and stupidity. This shared character seems to be what attracts readers, but not only is the tone shared, apparently the contexts is converging as well. The world of *Transmetropolitan* was marked by rampant corruption, pollution, happy violence, extreme forms of body modification, drug use, and cannibalism, to name just a few of the more prominent vices. But it also included edible RFID tags, camera phones, ubiquitous wifi, virtual worlds where people spent all of their time, and lots of other fun high tech gadgetry. I'm sure you can see where this is going. Ellis was remarkably prescient about both technical advances and societal degeneration (if we want to call increased corporate control, governmental corruption, and rising extremism degeneration, which I do). Ellis himself has commented on strange accuracy of his technological forecast, but I think more importantly, readers have come to feel much of the frustration Ellis originally voiced through Spider Jerusalem and still voices today.

Getting back to the way this online community reflects offline models, the connections to fan and fetish communities are overt. But the open-source parallel may not be obvious. Most of Ellis's readers seem to feel that he responds effectively to things that outrage him, and while they might not be quite so vocal themselves, they value having Ellis speak up, and the closer our own world grows to his imagined dystopia in negative ways, the more his readers want the aspects of his world that they desired as well. They want the fetish culture to be mainstreamed, they want the tech gadgets, and they want a Spider Jerusalem (i.e., Ellis) to speak for them. Because technology is an explicit part of

this fantasy, we might expect that these readers are happier to communicate virtually and not care so much about meeting, but in fact they seem just as eager to meet up at events as other fans, and since Warren always posts about which events he will attend, we must assume he likes seeing everyone face to face as well. Ellis's readers are trying to live in an alternative world by creating it around Ellis--sending news, pictures, and other material that support this other reality, and by performing this other reality when they meet. [here I will probably mention just how many like to dress up as *Transmet* characters, or like people who fit that aesthetic at conventions, and in general] In fact, it may be fair to regard this community as an enormous social hack, or even a role-playing game, and we know how fanatical those people are... And though he sometimes loses patience and closes one of his fora or websites, Ellis clearly can't resist the lure of this fantasy either.

So What?

At this point you may be thinking, ok, that's interesting, but these are just some crazy comic book fans, other people don't act like this. Well, fan culture has been attracting more attention lately, and deservedly so. Finally academics have woken up to notice a few important points. First of all, thanks to the proliferation of social networking websites and software, fan culture has become both visible and easy to explore. From that exploration we can see that fans are in many ways just like academics, minus the credentials. Anyone who has ever seen Shakespeare scholars going at it over whether the bard was gay, or really someone else, immediately recognizes the similar levels of passion, fondness for minutiae, and obsession with who is more expert. So it's a natural fit for all kinds of humanities scholars. More importantly, though fans used to be seen as atypical because they were so passive, and then were labeled atypical because they were so active, I think that in fact everyone is part of a some fan community. It might be comic books, it might be scrap-booking, environmentalism, porn, Apple computers, international adoption, net.art; everyone has some passion to which they devote a time and energy. I would argue that successful communities survive and grow because they tap into some shared passion (or obsession) among members. According to Henry Jenkins, a prominent scholar of both comparative media and fan culture:

The nature of fan creation challenges the media industry's claims to hold copyrights on popular narratives....Media texts, thus, can and must be remade by their viewers so that potentially significant materials can better speak to the audience's cultural interests and more fully address their desires. (Jenkins 279)

When people feel passionately enough about anything that they want to engage it and create something themselves, they will also begin to feel a sense of ownership, a sense that they want to participate in shaping this shared interest. They thus also begin to question, perhaps only implicitly, any kind of top-down control of their actions or of the material with which they wish to engage. In this sense, as Jenkins goes on to say, "Fandom's very existence represents a critique of conventional forms of consumer culture (283)."

However, the significance of fans' behavior goes beyond critique. In 2004, Castells expanded on his reasoning about how and why ICT was changing our world; he identifies and describes various characteristics of Internet communication technologies that make them especially useful both socially and economically. In particular he notes that "recombination is the source of innovation, and innovation is at the roots of economic productivity, cultural creativity, and political power making (15)." Not only does the Internet foster recombination and innovation, but these behaviors are central to the communities I've discussed here, and to most fan communities in general.

The three communities discussed here all show both critique and recombination; "creators" and "readers" (the line becomes blurry) revise cultural texts in order to make them better address their own or community desires. In the case of these particular communities, one overwhelming desired shared by all members is the continued survival and growth of comic book readership, and the well-being of comic book creators. So that in spite of growing numbers and other goals diverging, this shared concern and a shared general passion for the medium have so far over-ridden the forced that often lead to fragmentation.

So it may well be true that certain kinds of community may be disappearing, I think that what we are seeing is not the replacement of all communities with "networks," but rather the replacement of communities based on ethnicity, nationality, physical location, etc with communities based on shared passions. This trend has been noted before (Foster), but I'm not sure we've really thought about the implications. Many people are still truly fanatical about their national identity; did we really expect that those who give up nationalistic passion would give up passion entirely?

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The List Serves: Bare Life in Biopolitical Order

Kenneth C. Werbin

> Mankind barely noticed when the concept of *massively organized information* quietly emerged to become a means of social control, a weapon of war, and a roadmap for group destruction. The unique igniting event was the most fateful day of the last century, January 30, 1933, the day Adolf Hitler came to power. Hitler and his hatred of the Jews was the ironic driving force behind this intellectual turning point.
>
> —Edwin Black, IBM and the Holocaust

Through the ages, technologies for organizing information and people with aims towards networking and social control have clearly evolved beyond anything early papyrus and ink writers might have fathomed in their wildest administrative dreams, capable of wrangling into focus endless amounts of information, and moreover, global populations. And yet despite the ongoing emergence of new network technologies and unparalleled upheavals in *massively organized information*, one intellectual technological form (and its attendant practices) has remained relatively constant, much the same as it was in ancient times—the list—an indispensable pivot of biopolitical order || the site of caesuric social fracture. Indeed, since the dawn of literacy, lists have not only been our primary intellectual technology for organizing information and developing knowledge, but also, for dividing and categorizing people; and the more massive and monumental the organizational endeavor; the more we have used lists.

When I first began my work on how lists serve, I was very narrowly investigating email lists, or listservs. However, in historicizing the use of lists in power/knowledge contexts, I ended up going much further back to ancient times. A brief but invaluable study conducted by the anthropologist Jack Goody (1977) reveals that the majority of ancient writings were in fact constituted in lists, and further, that much of early social order and organization revolved around listing practices. Goody, who studied early Sumerian, Mesopotamian, and Assyrian writings makes a compelling argument for the operations of ancient list culture; arguing how on the one hand, lists established boundaries and encouraged hierarchies, and at the same time, called into question the very lines in the sand they drew; ultimately serving both administrative and lexical needs. In this way, Goody argues that ancient list culture involved dialectic operations; lists at once carved out knowledge in these cultures, and at the same time opened up questions about the constitution of categories and classes by virtue of placing items together. Lists brought contradiction to the development of knowledge for ancient cultures; helping to organize and order experience, they also called it into question. In this way, all the way back to ancient times, lists had emerged as powerful intellectual technologies.

Following on Goody's dialectic conception, my research argues that lists not only continue to be powerful intellectual technologies, but further, constitute ways of seeing and doing—discourses—that despite remaining very much taken-for-granted and deeply receded in our increasingly networked technological woodwork, are at the heart of the caesuric social fractures that mark contemporary biopolitical life; in short, 'us' versus 'them.' Where lists are extremely fruitful in the development of knowledge; they can be as divisive as scythes when applied socially to populations—severing people from their networks and communities || divesting bodies of humanity. So where Goody begins his investigation of list culture in ancient times, with the advent of primitive ink and papyrus technologies, my research begins with a historical event not normally associated with new technologies and network theory but rather with the unprecedented and abhorrent mass genocide orchestrated by the Nazis in Europe throughout the rise and fall of the Third Reich.

Indeed, my research argues that in the same way that lists brought contradiction to the development of knowledge for ancient cultures, they equally bring contradiction to the classification of bodies in contemporary biopolitical order, and this analysis begins with

the Nazis. On the one hand, lists brought order to the Third Reich, establishing boundaries, hierarchies, and divisions between people as a way of doing 'healthy' society and protecting the national body of the German people—the *Völk*. At the same time, lists brought contradiction to Nazi biopolitical order, calling into question who was, and was not a valuable member of the *Völk*. Building on this conception of lists as pivots of caesuric social practices in biopolitical order, I contend that *Nazi List Culture*, constituted in a conjunction of lists and IBM's early Hollerith punch card computing technologies, initially populated through census and registration data collected through the enactment of divisive social laws and practices, represents the first cybernetic feedback system in which discourses of identification, registration, surveillance and control of social threats as social order took root; bringing with them new ways of *seeing* and *doing*—divisive means for planning and ordering the efficient and effective organization of mass human endeavors—through the use of tabulated, sorted, and alphabetized lists of people.

Nazi List Culture: A Conjunction of Technologies, Practices, and Discourses

> The correct question to pose concerning the horrors committed in the camps is, therefore, not the hypocritical one of how crimes of such atrocity could be committed against human beings. It would be more honest, and above all more useful, to investigate carefully the juridical procedures and deployments of power by which human beings could be so completely deprived of their rights and prerogatives that no act committed against them could appear any longer a crime.
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> —Giorgio Agamben, *Homo Sacer*[1]

The more the Nazis registered, tabulated, sorted, categorized and divided society through the use of punch card technologies and lists, the more social policies and practices emerged that revolved around ascribing quantifiable value to human life, and further, isolating 'undesirable' life and severing it from society. With every census and registration practice engaged by the Nazis, and with each subsequent sort of data by IBM's Hollerith punch card technologies, human beings in the Third Reich were increasingly networked and reduced to numbers on lists; trackable, value-laden commodities. Indeed, it was in Nazi Germany that a conjunction of social practices and technologies coalesced as a biopolitical discourse that sought to register, identify, classify and control human life to the extreme; and it is in this moment and in these conditions that *list culture* emerged as the pivot of everyday existence in the Third Reich—at once a way of seeing the world, and at the same time a practical basis for implementing stringent and divisive social policies involving the identification and control of human life, and ultimately, the exposure and extermination of 'bare life'. *List culture* understood as a conjunction of technologies, practices and discourses of identification and control that expose bare life as a pivot of biopolitical order, is a way that was cemented in the Third Reich—and is a way which continues to resonate and expand today, albeit deeply recessed in our networked biopolitical social fabric.

Critical to addressing the 'juridical procedures and deployments of power' that Agamben points to is understanding how divisive census and registration practices in Nazi Germany came to reduce human beings to numbers and entries in registries and lists; and further, how complex bureaucratic policies, procedures, and practices would ultimately so fracture a population and so dehumanize individuals, that an entire nation's collective conscience would barely stir while with cold efficiency its government identified, listed, rounded up, and ultimately exterminated 'undesirable' elements. Indeed, Nazi 'raceology' and eugenics provided a veneer of pseudo-scientific validation to a vision of society that pivoted on the reduction of human beings to net-values of social worth in the Third Reich; legitimizing an ongoing ethno-biological diagnosis of what was called a 'disease-ridden' *Völk*; ultimately involving prescriptions for splintering and fracturing the people in the interest of identifying and exterminating the cancer within.

At the hub of this biopolitical praxis are the minutiae of bureaucratic practices that Hannah Arendt first pointed to in *Eichmann in Jerusalem* (1994). But where Arendt illuminated how banal bureaucratic everyday practices in Nazi Germany did contain within them the incunabula for profound evil and atrocity, absent in her work is a

[1] Agamben hs P.171

biopolitical analysis; specifically an interrogation of how caesuric social practices revolving around census-taking and registration in the Third Reich came to at once provide a means of ordering and organizing society, and at the same time divested bodies of their humanity. No juridical laws, procedures, and banal everyday practices were as pivotal to Nazi biopolitical order as those involving census, registration, and selection (Aly and Roth 2004).

Indeed, Nazi Germany pivoted on census and registration practices, and the precise march of death the Nazis orchestrated could never have been achieved had the groundwork for identification and control not been laid with the 1933 census. In practice, census and registration policies and procedures in the Third Reich had two profound social implications: Firstly, calling into question who constituted a Jew became everyday conversation in Nazi Germany (and calling out who was a Jew became sport for some). Secondly, the promotion of healthy Aryan stock through the effective use of racially-derived census and registration roadmaps became everyday social practice, enabling the ongoing articulation of 'biopolitical caesuras' (Agamben 2000); social fractures that began with the establishment of divisions between Germans and Jews, and led to the forging of crevasses between all 'undesirables' and the German *Völk*. Census, Registration, classification and divisive social categorization practices were seen as paramount to the survival of Aryan lineage itself, quintessential to the protection of Aryan hereditary stock. Indeed, "After 1933 National Socialism was publicized as 'the biological will of the German people', and as 'political biology.'" (Krausnick, Bucheim, Broszat, and Jacobsen 1968) And increasingly, census and registration practices in Nazi Germany became closely tied to eugenic and racial pseudo-scientific imaginings, paving the way for the invocation of numerous divisive laws from 1933 through 1945, all aimed at diagnosing and ultimately cleansing German society of its diseased elements.

Good versus bad stock; pure versus impure genetics; German versus Jewish bloodlines: Categories and classifications of human beings revolving around ascriptions of net-social-worth were at the heart of Nazi biopolitical order, spawning divisive social practices everywhere across the Greater Reich. The more individuals were seen as statistical objects with associated values, the more social policies revolving around empirically reductive differentiation flourished. "The Nazi functionaries understood all too well what kind of differentiation it should be and what lists should be compiled. They separated the productive from the unproductive, the useful from the useless." (Aly and Roth, p. 95) Indeed, Nazi raceologists and increasingly, all German nationals, came to see society through the lens of black and white categories, classifications, and social divisions—all of which hinged on the reduction of human beings to economic measures of productivity. "As the egalitarian principle was systematically destroyed and as the population began to be categorized into superior and inferior, the power of statistics increased." (Aly and Roth 2004, p.24)

In *The Nazi Conscience* (2003), Claudia Koonz argues that Nazi pseudo-science involving statistics and eugenics provided scientific and rational validation for engaging the deplorable kinds of social divisions that marked much of life under the Third Reich; playing a central role in assuaging the consciences of German nationals everywhere. Racial science had provided more than 'ample proof' of the threat the Jews and undesirables posed to the *Völk*, ultimately justifying and validating the identification, listing, isolation and extermination of these unproductive 'enemies' through their reduction to trackable statistical objects. The sterilization and sacrifice of individuals and whole populations was merely seen as the 'cost' for a healthy *Völk*.

Indeed, the Nazi way of seeing human beings as reducible to points on a cost-productivity curve—valuing human life as empirical reduction—brought with it attendant ways of doing involving analyzing populations, listing and isolating undesirables. "Quickly, the notion of sterilizing the physically undesirable expanded to include the *socially undesirable*. So-called *anti-socials*, that is misfits who seemed to be unsuited for labor, became targets." (Aly and Roth 2004, p.94) As the vision of 'human net value' was promulgated throughout the Third Reich, increasingly the German population became accustomed to and comfortable with identification and selection practices revolving around the removal of undesirable elements of society from everyday life. Germans began to overwhelmingly see the need to put the whole of society before its individual parts; and in

turn, undesirable parts were being listed and weeded out for the good of the *Völk:* Consciences were thus assuaged.

For the Nazis, the penultimate aim of such biopolitical caesuric practice was a 'final accounting of humans'. By 1945, increasingly the Nazis dreamed of an everyday registration system that could track the social, political, and financial meanderings of the entire population of the Greater Reich. The ongoing networking, identification and control of individuals everywhere was at hand. Indeed, had the Nazis prevailed it might only have been a matter of time before they would have designed and developed a daily automated registration system—a final accounting of humans—providing real-time, up-to-date tracking and control of the financial, social, and political meanderings of individuals and populations across the Third Reich. Nazi list culture had arrived and total information awareness as biopolitical order was really just around the corner; a hegemonic conjunction of technologies, caesuric social practices, and discourses that pivot on the identification and control of bare life had been established and firmly cemented.

Bare Life in Biopolitical Order

I have briefly examined how the political techniques around census, registration, and valuing human life through statistical measures contributed to a caesuric political environment in Nazi Germany where care for the *Völk* (specifically for Aryan individuals) came to dominate government policies. In turn, I have briefly described how lists emerged as the center of everyday political practice and life in the Third Reich, and have briefly mentioned the indispensable role IBM's Hollerith punch card technology played in fostering this biopolitical way of seeing and doing. But what is only beginning to become clear in this analysis are the processes of subjectivization through which individuals in the Third Reich (and in western democracies too) came to embody this biopolitical power in their very beings; how a series of *technologies of the self* (beginning with the ascription of human net-value through statistical valuation and categorization) would come to so deeply penetrate bodies as to form a fundamental identity and consciousness firmly bound up in the identification and control of bare life.

It is in the indeterminate space of the concentration camp, where identification and control of human life—biopolitical order—is at its extreme, that Giorgio Agamben articulates 'bare life'; meaning life that no longer deserves to live, but cannot be martyred; life that cannot be sacrificed, yet may be killed; the *Muselmann* that violence is wholly permitted against; the body utterly exorcised of humanity—the pivot of contemporary biopolitical order. Indeed, the space of the concentration camps is characterized by what Agamben calls the *originary nomos*—with the strongest hand comes order and power—a realm wherein violence and law, policing and politics become indistinguishable. At the extreme of this order, and unique to this indeterminate space, is the production of the *Muselmann*, the emergence of the last biopolitical caesura || the final transformation of the prisoner into one indivisible entity || the last layer of the onion peeled || a body that no longer carries any markers of humanity || a body that can be exterminated without conscience.

> With the emergence of biopower every people is doubled by a population; every *democratic* people is, at the same time, a *demographic* people. In the Nazi Reich, the 1933 legislation on the 'protection of the hereditary health of the German people' marks the caesura perfectly. The caesura that immediately follows is the one by which, in the set of all citizens, citizens of 'Aryan descent' are distinguished from those of 'non-Aryan descent'. A further caesura then traverses the set of citizens of 'non-Aryan descent', separating Jews (*Volljuden*) from *Mischlinge* (people with only one Jewish grandparent…). Biopolitical caesuras are essentially mobile, and in each case they isolate a further zone in the biological continuum, a zone which corresponds to a process of increasing degradation. Thus the non-Aryan passes into the Jew, the Jew into the deportee…the deportee into the prisoner…until biopolitical caesuras reach their final limit in the camp. The limit is the *Muselmann*. At the point in which the [prisoner] becomes a *Muselmann*, the biopolitics of racism so to speak transcends race, penetrating into a threshold in which it is no longer possible to establish caesuras. Here the wavering link between people and population is definitively broken, and we witness the emergence of something like an absolute biopolitical substance that cannot be assigned a particular bearer or subject, or be divided by another caesura. (Agamben 2000, P.84-5)

For Agamben, "the absolute capacity of the subjects' bodies to be killed forms the new political body of the West." (Agamben 1998, p125) With each biopolitical caesura that divides, a further layer of humanity is shed from the body, until all that remains is bare

life—the wavering existence of the *Muselmann*—the indistinct space of life || death. Indeed, bare life, as such, is the fundamental political unit of contemporary existence. Whether life is subsumed by Nazi totalitarianism, or being takes shape in western liberal democracy, each statistical fracture of people from populations further divests bodies of humanity; ultimately carrying the potential to pare them down to bare life, their absolute capacity to be killed. Indeed, today, bare life remains the 'supreme political principle'. It continues to be the pre-eminent object of calculations and mechanisms of power; and this transcends life, whether under Nazi occupation, or in a contemporary western democracy. Bare life is the fundamental political unit and the ongoing forging of caesuras that isolate people from populations lies at the hub of biopolitical existence.

Eerily similar to life under Nazism, contemporary biopolitical existence is marked by ongoing debate and endless redefinitions of 'us' versus 'them'. Indeed, divisions, categories and classification of what constitutes a *nationalized citizen* continue to be at the center of modern biopolitical existence—evidenced entirely in the furor raised over America's recent (2006) legal initiatives to streamline immigration policies and practices through the enactment of identification procedures to list, weed out and control *non-nationals* across the United States. Lists played a central role in recent immigration raids. In much the same way that the Nazis were constantly re-articulating what constituted Jews and undesirables in general, contemporary biopolitics is plagued by this same essential characteristic; "…[a] constant need to redefine the threshold of life that distinguishes and separates what is inside from what is outside." (Agamben 1998, p.131)

In this way, bare life is a double sovereignty each and every one of us assumes in birth and possesses in life. On the one hand, our sovereignty is sanctified in our bodies at birth and is the foundation of our nation-state's legitimacy, which cares for and protects the lives of its cherished citizens. On the other hand, our bare lives can always be exposed—that which is revealed when one violates the sanctity of the nation, of the 'ethnic body politic', of the *Völkskartei*—when one is divided and classified as 'them' or 'other.' Indeed, when individual human rights, freedoms and liberties are removed; bare life is exposed. Bare life is a double sovereignty that is written into our democratic legal constitutions, and is the foundation of political life—biopolitical life. Inscribed on us at birth, we are the proud subjects of individual human rights; and at the same time, equally subject to their removal.

odies that are networked, listed and finally find themselves in such states of exception are not merely excluded from social order; they are *taken outside* of it. The rights customarily afforded to human beings have been suspended and removed. For Agamben, the expression, 'the exception is the rule,' is to be understood quite literally in contemporary biopolitics. "Law is made of nothing but what it manages to capture inside itself through the inclusive exclusion of the *exceptio*: it nourishes itself on this exception and is a dead letter without it." (Agamben 1998, p.27) In this way, law in biopolitical order exists only in exception; pivoting on the establishment of fractures between people and populations that carry with them the potential to pare individuals down to one last indivisible exception; the bare life of the *Muselmann*.

Conclusion

Today, our biological bodies are virtually indistinguishable from our political bodies, moving about in a networked biopolitical order that increasingly identifies, registers, and tracks our movements in real-time. Bare life is inscribed on us in birth and we carry it with us wherever we go. *Nazi list culture,* or the conjunction of computing technologies, caesuric registration practices, and discourses revolving around social threats and the identification and control of bare life is a fundamental political reality which took shape in the Third Reich, and continues to be at the forefront of contemporary networked biopolitical existence; and at the heart of this conjunction are lists and listing practices—the pivot of such operations.

In the same way that lists brought contradiction to questions of who constituted a Jew or an undesirable in Nazi biopolitical order, today, they bring contradiction to questions of who and what constitutes terrorists and terrorism. 'You are either with us, or you're with the terrorists!' But who are the terrorists? And how can we identify and control them most efficiently and effectively? How can we isolate their networks and individual bodies?

What caesuric social practices are required? What are the most effective technologies for such operations? What lists need to be compiled? While the answers t such questions remain fluid and elusive, they are indeed the eerie remnants of *Nazi list culture*. And where this culture dreamed of a networked, everyday registration system that could track, organize and order the political, social, and financial meanderings of massive populations on an up-to-the-minute basis, it is only in the last 15 years, with the widespread global adoption of the Internet (and networked technologies in general) that such dreams have taken shape as reality. No longer are houses the markers of residence, nor the focus of registration. Registration is now everywhere, as increasingly all facets of our lives are logged, tracked, and mirrored in the digital realm. The tabulation, listing, sorting, analysis, and coding of human beings is ubiquitous in the global age of the network, receding further and further into the fabric of everyday culture.

Where Hitler and his Third Reich lost, *Nazi list culture* prevailed. The Nazi dream of ubiquitous registration is now a reality. That which was achieved in the camps—all-pervasive identification and control of bare life—is increasingly being achieved everywhere. More and more threats to the *health* of nations are being identified; more and more lists are being compiled. The camp has transcended its fences, subsuming large swaths of the globe. *Nazi list culture* cemented a way of being revolving around a conjunction of computing technologies, caesuric registration practices, and discourses of identification and control that continue to serve and haunt us today.

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ART AND INFO-AESTHETICS

Landstream

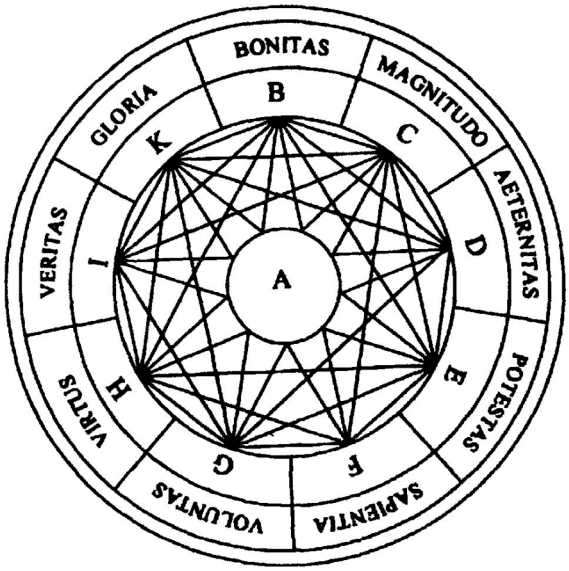
Olga Kisseleva

Land-stream is an experimental program, which creates a representation of landscape through the analysis of flows (stream) which cross a given space (land). The work takes a pictorial form, which can be static or animated. In this landscapes their initial scientific data are transformed into visual information. Today, when our identity is defined especially by our position in the network, by the information which we emit and which we receive, we fix our attention on these invisible flows and we try to determine their importance, their form and their direction. Thus, the landscape - land(scape) - is not any more one simple relief. It becomes an association of the waves and signals (stream): land-stream.

An Eternal Engine[1]

Wayne Clements

Writing of Ramon Llull's 'thinking machines', Borges suggests playfully that we change the contents, the concepts these machines manipulate, designated by the terms on their rotating wheels. These wheels are turned to create new combinations and so spell out propositions such as, 'Angels are wise'.



But, according to Borges, Llull's medieval expressions are no longer serviceable. He suggests therefore, the preoccupations of Llull's machine might be modernised along the following lines:

> "We now know that the concepts of goodness, greatness, wisdom, power, and glory are incapable of engendering an appreciable revelation. We (who are basically no less naïve than Llull) would load the machine differently, no doubt with the words Entropy, Time, Electrons, Potential Energy, Fourth Dimension, Relativity, Protons, Einstein. Or with Surplus Value, Proletariat, Capitalism, Class Struggle, Dialectical Materialism, Engels." (Borges, *Ramon Llull's Thinking Machines*, p. 157).

In Borges's modernist revision, it is only the words that are modernised, not the machine itself. Nor is our understanding of this machine fundamentally challenged. Like Llull's, Borges's would continue to produce unpredictable, but highly determinate, sentences. These machines of Llull and Borges, whatever their component concepts, are essentially random sentence generators, where the syntax is fixed and choices are made from a prepared list.

Such machines are the subject (probably) of Swift's famous parody writing machine from *Gulliver's Travels*:

> "It was Twenty Foot square, placed in the Middle of the Room. The Superficies was composed of several Bits of Wood, about the Bigness of a Dye, but some larger than others. They were all linked together by slender Wires. These Bits of Wood were covered on every Square with Paper

1 This paper uses some material from Infernal Thunder, published by a minima 19. The titles of both texts are taken from this quotation from Milton's Paradise Lost: "…to meet the noise of his eternal engine he shall hear Infernal thunder". Milton, Paradise Lost, Book II.

pasted on them, and on these Papers were written all the Words of their Language, in their several Moods, Tenses, and Declensions, but without any Order".[2]

Such writing machines are comprised of fixed rules and random utterances, of astronomically large, but not infinite, combinations.

Florian Cramer (2005) correctly identifies the limitations and the contradictions of these machines and other randomising contrivances: they produce chance combinations, but they are not themselves random. Their structure and construction, in fact, is fixed. "The strict separation of static instructions and contingent data contradicts the assumption of a 'chance operation'. This is the paradox of all aleatory art, including concrete poetry and the music of John Cage." (Cramer, p. 103).

These **old writing machine** was, in computer-speak, 'stand alone'. This is in the sense of a non-networked machine. Being thus insular, their data was as fixed as their rules. But the networked **new writing machine** may receive inputs that are not preordained. And its rules are not fixed. These are differences that prompt a rethinking of the contemporary writing machine.

One of the compensations of determinateness and insularity is efficiency: Llull's machine has, within its own terms, no waste. Because its vocabulary and syntax are predetermined, it produces no redundancies. It is unlikely that his machine would say '*God is a herring*', which is theologically incorrect, or '*herring a God is*', which is wrong, at least by most English users' standards, for other reasons. Both senseless and ill-formed remarks are forbidden.

The new writing machine is a networked machine. Its rules are fluid, as are its data. One of the problems of indeterminateness is redundancy. That is to say, whilst Llull's machine may be relied on not to produce statements its author might not approve of, this cannot be said of the new writing machine. What this means in practice is that the writings of this machine may be a site of contestation. This is because of the extreme unpredictability of possible inputs and output statements. While the old writing machine could write a large but not infinite number of remarks, the new writing machine is as indeterminate in structure as it is potentially (at least) infinite in production.

What I am suggesting therefore is a rethinking of writing on the Internet as a development of the writing machine – a development in both the form of the machine and the data it may use. It is the fact of the computer, and the networked computer specifically, that enables this change.

The new writing machine is reconfigurable. (Speaking of digital computers in general) Finnemann says, "rules can be changed, modified, suspended or ascribed new functions during the process, influenced by any component part of the system or according to new inputs whether intended or not." (Finnemann, 1999, p. 22). This flexibility extends to any writing machine that is simulated by a computer. Such a flexibility is logical, however, not actual. It is prevented in reality by restrictions both practical (for instance the deliberate obfuscation of code) and legal (in the licensing of proprietary software for example). This is one significant difference between open source and open content projects, such as Wikipedia, and other non-open software.

Wikipedia, and its sister projects, can be thought of as writing machines, but they are not the only writing machines functioning on the Internet. They are, however, some of the more interesting; this interest devolves from their constitution as open content (anyone may contribute) and open source (the code is published and may thus be developed).

The old writing machine was human authored. But once created, it was unaffected by human usage. Nor did it depend, as a logical machine, upon its environment. It was

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[2] "The Professor then desired me to observe, for he was going to set his Engine at work. The Pupils at his Command took each of them hold of an Iron Handle, whereof there were Forty fixed round the Edges of the Frame, and giving them a sudden Turn, the whole disposition of the Words was entirely changed. He then commanded Six and Thirty of the Lads to read the several Lines softly as they appeared upon the Frame; and where they found Three or Four Words together that might make Part of a Sentence, they dictated to the Four remaining Boys who were Scribes. This Work was repeated Three or Four Times, and at every Turn the Engine was so contrived that the Words shifted into new Places, as the square Bits of Wood moved upside down." Swift (1963) pp 175-176.

impervious to outside influence. But the new machines depend upon their networked status for continuance.

Many consequences flow from these dictums. In the new writing machine the human and the mechanical interpenetrate. The new writing machine is in fact a *cyborg*: part human, part machine. In most circumstances, however, there are severe limitations on permissible human inputs and the relationship is thus unequal.

Wiki-based projects differ, dependent on their formal democratic structure. They allow greater scope than most online writing machines, which are by and large diligent robots, the type that check our form-filling adventures. We can input a name, password, email address and, of course the machine will write a reproof if these are not legitimate. This is often more or less the extent of the transaction.

Not so with wikis. There is of course a greater freedom to contribute. It is this, and its possible consequences, that some of my software investigates. These are principally *un_wiki* and *InterDiction*[3]. This software is created for particular environments. It is particularly interested in the *MediaWiki* wiki engine. This is because there is, built-in, a Deletion Log that records the destruction of unacceptable contributions. (This is not the case with all wiki engines). Mine, therefore are useful parasite-machines, evolved for specific conditions.

Deletion Logs provide interesting records of regulation and conflict, of course. However, my present interest in these dismal chapters aspires to something more than to chart the overt conflict between virtuous circles of wiki Sysops and their largely anonymous antagonists who plague them with their ceaseless contributions of *nonsense* (the preferred bureaucratic[4] term).

However, the basis of an advocacy of the reuse of information must lie at a deeper level than the frivolous consumption of nonsense (or 'the imbecilic', to steal a term from Zizek). This insight is based upon a reading of other texts by Borges: *The Library of Babel*, and the related essay, *The Total Library*. In *The Library of Babel* the narrator poses a heresy to the doctrines of reason:

> "I cannot combine some characters
>
> dhcmrlchtdj

which the divine Library has not foreseen and which in one of its secret tongues do not contain a terrible meaning. No one can articulate a syllable which is not filled with tenderness and fear, which is not, in one of these languages, the powerful name of a god" (pp 84-85).

What is nonsense to one may be divine revelation to another. How can one know? And it is this possibility that tortures the narrator of Borges's story. It is also the torment that drives the librarians to fervours of defensive destruction. It is also the possibility that lurks within *un_wiki* and *InterDiction*: amongst the rubbish may be value.

It is therefore perhaps fortunate that the destructions carried out by the Sysops are as futile as those of the zealous librarians in Borges's tale and for the same reason: the infinite nature of the writing. In Borges this infinity is physical and temporal. With the new writing machine too the production of new material is perpetual. However, the bureaucrat performs useful functions. The eternal engine is maintained *and* waste material is sorted into convenient packages. The only stage the process lacks is that of reuse. This is the service provided by my machines.

There is little possibility that the production of what the Sysop refers to as nonsense will cease. Why is this? The answer lies in the nature of Wikipedia 'machine' – and that of the Wiktionary machine as well. Stalder (2006) explains the mismatch between cultural creation and openness based on the model of open source software production. Anyone has the credentials to participate. Yet there will be those who share the aims of the project, but are cruelly judged to lack the expertise to contribute. A further

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[3] *un_wiki* finds material deleted from Wikipedia: http://en.wikipedia.org/wiki/Main_Page. *InterDiction* creates its databases from deleted material from Wiktionary: http://en.wiktionary.org/wiki/Main_Page.

[4] I do not use the word in a hostile sense: it is the preferred bureaucratic self-description. See for instance http://en.wikipedia.org/wiki/Wikipedia:Bureaucrats.

fact, not really engaged with by Stalder in his paper, is that there will be many who do not share the objective of the project: the creation of knowledge. These conduct a campaign of what the Sysop calls 'vandalism'. Zizek (1997), in a section of his book *The Plague of Fantasies* (entitled "*Cyberspace, Or, The Unbearable Closure of Being*") discusses how it is that there are many who are excluded from the endless progress of reason. He argues, as a class deprived of duties, they are also devoid of responsibilities to the progress of reason (Zizek, p. 127). Putting these facts together, the potential for nonsense production is in theory endless.

We need to face the realities. The new writing machine produces large amounts of redundancy: material it cannot use and that is expelled as a sort of noxious emission. Instead of a repression of this material, we should reuse it. This as an ecological initiative. It could be a tragedy if this material should be expunged forever from the Logs of the Sysops (as is possible[5]). What treasure may prove to be hidden there?

The advent of the computer, the networked computer, has meant the multiplication of the writing machine. No longer a mystical anomaly, these machines are now practical and ubiquitous.

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Writing machines:

un_wiki http://www.in-vacua.com/un_wiki.html

InterDiction http://www.in-vacua.com/interdiction.html

[5] Sysops at Wiktionary have recently moved to obscure the record of as much deleted content as possible.

Heath Bunting from physical space to the net and back again

Jacob Lillemose

With Heath Bunting's seminal work created from the mid 90s to today as my focus I wish to discuss the aesthetics involved in his 'translation' of concepts and practices from the digital space of the net to physical space. I 1997 at the height of his fame Bunting with Duchampian tongue-in-cheek declared that he would retire as a net artist. Formally he did quit the net art scene, but conceptually and in practice he took his net art to a necessary next level. Thus, he went on to produce a series of work in nature and urban space that developed notions of networks and related notions of hacking, sharing, information access and free culture that were integral to his net art works. I will follow this artistic development to argue that it challenges us to expand current aesthetics of net art works beyond the pure digital realm and that it expresses a productive critique of technology in the society of information.

Imag(in)ing Networks

Katja Mayer

Abstract:

Network cultures share imaginations of networks. Despite the lack of a consistent scientific network theory, a coherent trans-theoretical trend in today's network visualization can be observed: even if underlying data and purposes are very divergent, images of networks are similar. They are created from the same technical and graphical dispositives and produced by similar optimization algorithms for topological problems within the constraints of digital information visualization. For a concrete examination of the ongoing "viscourses" (Knorr-Cetina 1999) we need to focus on imaging practices and culturally and technically embedded standards that are easily overlooked. The suppositions to be presented are derived from the empirical observation of research practices in an institution specializing in Social Network Analysis and from several interviews with network and visualization experts conducted for my PhD.

Note:

As I do not hold the copyrights to most of the images that will be part of my presentation, I unfortunately cannot include them in this paper.

Thanks:

My thanks go to the following persons, who agreed to be part of my study and especially to Harald Katzmair and Gerhard Dirmoser, who generously supply me with materials and insights.

Ulrik Brandes, Christian Gulas, Betina Hollstein, Dorothea Jansen, Wolfgang Juette, Aaron Kaplan, Lothar Krempel, Florian Ledermann, Helmut Neundlinger, Ruth Pfosser, Richard Rogers, Max Ruhri, Elisabeth Scheibelhofer, Stefan Thurner, Gabriele Werner, …

And many thanks to Irene Laviña for keeping an eye on my English.

Introduction

I am interested in the practice of scientific knowledge production. My background is in Science and Technology Studies (STS), where I examine means of legitimation of scientific knowledge with and through scientific images as images are conventionally not accounted as strict formal methods. The central question in my PhD is: What roles do images play in the knowledge production in the context of their production?

"Epistemic images" (Latour 1996) have been investigated for more than two decades in STS and history of science, but the practice of image production and their roles in the scientific community as well as the use of imaging technologies in social sciences and humanities are rarely objects of research projects.

With Social Network Analysis (SNA) I chose an interdisciplinary academic field and a scientific community where images play an important role in argumentation, knowledge production and diffusion, and where aesthetic criteria take an active part in imaging processes.

For my study of network visualizations I chose SNA for several reasons:

1. Visualization of social networks has been a core practice since software has become widely available.
2. There has also been a tradition of visualization in pre-digital times, so it would be possible to compare the features and styles without getting lost in densely engineered operative procedures.
3. It is still quite easy to have an overview of this relatively young and small discipline.
4. Parts of the community are actively and openly reflecting on their paradigms, methodology and strategies, especially at a time when *social software* and network analysis being used in many disciplines and contexts.
5. The community is accessible and has shown interest in my research project.

A wider discussion of quality standards of social network visualizations has recently emerged in this field. I have been able to identify several people in this debate and have asked them for an expert interview.

My suppositions derive from repeated empirical observations in an institution specialized in SNA in Vienna, Austria and from several interviews with network and visualization experts conducted for my dissertation. Participatory observation and several feedback discussions have provided additional insight into the image production procedure as well as into the personal positions and some of the collective attributions of the researchers in this field. With that I could establish an understanding of the role of network visualizations as transfer objects in the research process. I was only able to overview the various enactments and functions of network imagery when after analyzing the additional interviews I conducted with computer scientists, physicists, social scientists, and mathematicians, who all work on - or with the visualization of complex networks.

Another important source of my observations are meetings, method workshops and, most importantly, conferences. At the forthcoming conference New Network Theory in Amsterdam I am particularly looking for alternative stories, metaphors and imagery of networks that could open up new opportunities, new perspectives for SNA but also could serve as means for reflecting upon my own investigation.

In line with the concept of performativity, the underlying hypothesis of my project is that producing and representing knowledge are inseparable. My own research is generated from a "particular location" (Haraway 1988) but strives its research object as "multiplicities" (Mol 2002).

My presentation is subdivided into three sections:

1. Short overview to my investigation of epistemic images in Social Network Analysis with a special focus on the production of network visualizations by the pioneers in the 1930s.
2. The visual and formal culture of depicted networks.
3. The implications and paradoxes, that make it so hard for us today to imagine networks other than with nodes and edges, for a *New Network Theory*.

> "Thus: the strength of knowledge does not depend on its degree of truth but on its age, on the degree to which it has been incorporated, on its character as a condition of life. Where life and knowledge seemed to be at odds there was never any real fight; but denial and doubt were simply considered madness." (Nietzsche 1882, 110)

Epistemic Images

The roles of images in science have been contested for a long time. Their attributions range from representation to construction, from anthropology and semiology to phenomenology, from truth to emotion. Many scientists argued that truth can only be found in pure or abstract ideas and therefore have rejected the use of images. Not only were they convinced of the impossibility of mapping reality, they also pointed to the dubiousness and indeterminability of images and their creative distraction. Accordingly, images were unsuitable for use in scientific argumentation because of their aesthetic effect (which supposedly confounds scientific rationality). Since Freud there has been a debate (Mersch 2005) whether pictures evoke an affirmative tendency or if they can be negated in a logical sense.

Digital techniques as mathematical technology were regarded as trusted toolkits for scientific objectivity. With the rise of computer graphics within the last 20 years, new representational techniques have been developed along with new possibilities of simulations with new virtual spaces of potentiality. But with digitalization the boundaries between *allowed editing* and *tabooed manipulation and interpretation* become once again equivocal, especially since production, manipulation and interpretation are more inseparable then ever. (For further discussion see: Heintz 2001, Hessler 2006)

The wish to produce *realistic* images - from dinosaurs, nanolouse to colorful celestial bodies – have led to a claim for quality control or even aesthetic standardization. "Pictures must not be divorced from science and scientific plausibility", Ottimo writes in his widely discussed article in Nature (Ottimo 2003). The interesting term here is: *plausibility*. He is not arguing against an artistic approach, but he claims for a transparent justification of the used methods and demands for the compliance of scale. To connotate *realistic* directly with the *objective-natural* or with *puristic* or *abstract* representations of measurement is to forget that these modes of display are also aesthetic styles. Such an assessment of scientific images adopts a "principle of disjunction" (Bredekamp 2004) in the characterization of a scientific representation: the more natural an object appears in its display in reference to what we see, the more its picture has been constructed. In that sense visualizations of networks come with a strong natural appeal, because they are very complex assemblages projected on to a two-dimensional plane.

Making Images, Making Sense.

To investigate scientific images it is necessary to observe their process and context of production and their different "enactments (Law 2000). Latour and Woolgar referred to representational techniques in science as "inscription devices" (1979). Scientific graphs are very effective and persuasive form of inscription devices. Latour (1990) would even go as far as to suggest that the use of graphs is what distinguishes science from nonscience. And the historian Crosby (1997) traces the explosive development of all modern science back to two factors: Visualization and measurement.

With reference to Latour's article "Drawing Things Together" (1990) I expound on several functional qualities of scientific graphs/diagrams and therefore visualizations of social networks for the scientific research process. As an explicit elaboration and extension of Latour's specifications I include the diverse materialities, corporealities (Haraway 1991) and medialitites as horizontal dimension of analysis in my study.

1. Making structural data "visible" (Rheinberger 2006) transformes data into easily apprehendable icons.
2. Diagrams promote inductive abstraction from detail to general.
3. Diagrams can be superimposed and compared.
4. Scientific images function as apparati and results. "Diagnostic images" (Diebner 2006) faciliate exploration and they even help find errors in large datasets.
5. With conventional graphical forms of abstraction, diagrams remain sufficiently flexible so that the transfer of knowledge can take place.
6. Scientific images can be transported across contexts: they are "conscriptions" (Latour 1990) and mobilize consensus on data and evidence.

7. They are "mobiles" (Latour 1990) as they are transportable objects e.g. from laboratories to scientific conferences.
8. They provide material grounds for demonstrational purposes, maps for traveling fingers and metaphors.

The enactments of visualizations in the research process are also very dependent on the scientists experience and use of imaging technologies. Most social scientists have at least some expertise in dealing with statistical software and graphical output in form of diagrams. But dealing with social networks as concept in software and in images is still something that is at its inception, at least in Europe.

Structural Imaging

In the pioneering days of Social Network Analysis in the 1930s, before mathematicians became interested in real world graph problems, when "super-connectors" (Barabasi 2002) were called "stars"(Moreno 1953), and networks were drawn by hand, one can locate the basic assumptions that are still at work in scientific network visualization today. Interaction diagrams and later *sociograms* were originally developed for improvised theatre and psychodrama, before their application to social groups for intervention purposes.

The emergence of social network analysis results from many different influences. The idea of society as a number of individuals connected by interaction was introduced by Simmel in his formal sociology in 1908. Upon emigrating to the USA Lewin and Moreno brought and further developed interaction diagrams, *field theory* and *sociometry* in the 1930's (Wasserman 1994). But one of the major influences for the visual dimension of the discipline was the work of Moreno, a psychiatrist and group therapist by training. Along with his co-author Jennings he developed sociograms for representing the interpersonal structure of groups and devised quantitative measures for network structures.

> "Before the advent of sociometry no one knew what the interpersonal structure of a group 'precisely' looked like." (Moreno 1953, p. lvi)

Before the early 1930's group structures were mainly displayed in matrices. Commonly the rows and columns (still) represent social actors and the values in the cells represent the connections. With the sociogram social actors are represented as points and connections as lines.

Moreno wrote about his research practice:

> "We have first to visualize … A process of charting has been devised by the sociometrists, the sociogram, which is more than merely a method of presentation. It is first of all a method of exploration. It makes possible the exploration of sociometric facts. The proper placement of every individual and of all interrelations of individuals can be shown on a sociogram. It is at present the only available scheme which makes structural analysis of a community possible." (Moreno 1953, pp 95-96)

Above mentioned sociograms were drawn by hand and nevertheless Moreno claims high formal standards for his displays. But the most important task was to make structures evident and to allow exploration. That was more important than scientific reproducibility and falsifiability, scientific qualities that were claimed for the other methods, especially for the "sociometric test", "sociometric experiment" (Moreno 1953) and the quantitative analysis of the interpersonal choice-making activity - choices with whom to interact, share time, space, energy and opinion. On another occasion Moreno (1953) emphasized the potential of sociometry in general and sociograms for social intervention and for the inducing of social change. With the help of sociometrists, participants of sociometric experiments could become active agents in matters concerning their life situation because they could see their embeddedness in social situations and groups and therefore, perform adaequate changes.

The sociograms of that time can be read as pictoral representations of (mathematical) graphs as they consist of a set of points along with a set of lines connecting pairs of points. Moreno does not refer to mathematical graph theory that was evolving around the same time, and so it can be stated that the sociograms "were ad hoc and their success varied with the insight and artistic skill of their creator"(Freeman 2000). So neither the sociometric drawings nor the *sociometric facts* - the analysis of the sociograms -

were derived from systematic calculation, but from systematic formalization, that was done *manually*.

The further development of sociograms by Moreno included directed relations represented by arrows, the use of colors to distinguish different attributes in relations for the creation of "multigraphs" (Freeman 2000), variations of shapes of points to "communicate characteristics of social actors" (Freeman 2000) and "variations in the locations of points (…) to stress important structural features of the data" (Freeman 2000). The question of locating the points on the plane led Moreno to place them in "positions that map to their actual locations in physical space" (Freeman 2000), similar to today's term *geomapping*. When there was "no specific basis for arranging points in one particular form or another" (Freeman 2000), they were arranged into a circle. With large datasets sociograms become less effectively readable due to an increased number of line crossings. It is still a widely used rule in network visualization, that "the fewer the line crossings, the better the sociogram." (Freeman 2000)

All of the features and rules mentioned above - although derived from insights of the manipulation of relatively small datasets - are still in use when it comes to visualizing (social) networks from large datasets today. These features are nowadays embedded in visualization software that theoretically make the image production obeying to the scientific laws of objectivity, reliability, validity, standardization and Occam's Razor.

Sociograms helped to in-form the sociometric facts. Manually. Diagrammatically.

They still do so but nowadays, automatically. So the models used in network analysis are basically topological, "their elements are defined relationally according to the pattern of ties that exist between them. There is no metric extension in this space (distance is calculated by the number of links separating two nodes) and no dimensional orientation (for example, up, down, right and left are undefined)." (Mohr forthcoming) But for their depiction as networks on a plane those models have to be projected onto two-dimensional space and mediated onto physical space.

Imaginations

Contemporary scientific network analysis studies interactions among a set of actors (e.g. persons, institutions, objects, molecules, etc.) from a structural perspective in a broad range of disciplines. Examples of (complex) networks under investigation are the Internet, the spread of diseases and social interactions, which are the speciality of SNA. Examples for such social interactions include: kinship, friendship, social movements, exchange of goods, work, capital, information etc.

To analyze a network (social or other) a finite set of actors has to be defined. For at least one type of relationship it has to be measured, which actors from the set are holding this type of relationship. In network analysis many very different scientific theories with specialized tools for data collection converge within a rather small formal methodological field that provides means for the measurement of relations and interactions. The mathematical theory of networks derives fundamentally from certain branches of topology and abstract algebra. Therefore, its tool set consists of elements from Boolean algebra, lattice theory, set and graph theory and combinatorial statistics.

The theory of graphs is often presented as general theory of networks because relational data is commonly organized in matrices or in graph drawings. The relational data used for both means of display are the same. In graphs actors are denoted as nodes/points/vertices and relations as edges/links/lines. In formal contexts the term network is used synonymously with the term graph.

To analyze social cohesion, the *density* of the network is measured. Density is derived from the number of links in a network, expressed as a proportion of the maximum possible number of links. Density is commonly measured in sub-networks, and not for the total graph. To gather knowledge about the relative importance of an actor in the network, *centrality* is calculated. "There are four measures of centrality that are widely used in network analysis: *degree centrality*, *betweenness*, *closeness*, and *eigenvector centrality*." (Wikipedia: Social Network Analysis) The degree of an actor/node is the number of direct relations/edges to the actor/node. Nodes that occur on many shortest paths between other

nodes have higher betweenness than those that do not. Closeness is defined as the shortest path between two nodes. Eigenvector centrality assigns relative scores to all nodes in the network based on the principle that connections to high-scoring nodes contribute more to the score of the node in question than equal connections to low-scoring nodes. Those analysis techniques are among the first ones taught to students of network analysis and they belong to the field of graph theory.

The usage of tools from graph theory in SNA brings with it several problems. To name a few: Graph theory - developed in the context of relatively limited problems - rarely handles networks with several distinct types of relationships, each with its own configuration of links. It seems that such networks might be of most interest to sociologists. Nodes that have links back to themselves are neglected and not represented in full effect. Transformation relations are also mainly ignored as graph theory offers just a limited number of means for global analysis of networks. (Bender-deMoll 2006). There is nonlinear data that could better be represented with set-theory or categories as there is always a certain trope of causal hierarchy embedded in the network-node/edge worldview. The strong affinity of Rational Choice Theory with the network approach should also be mentioned here.

In highly acclaimed books from physicists presenting *the Network Theory*, original sociological concepts like *social structure* or *social capital* are laxly ignored or totally abandoned. What follows is a very formalized and pragmatic concept of the social, preferably projected onto socio-technical connections and systems of rational agents.

When looking at spatial metaphors used to describe networks, it is very interesting to see the problems we have when dealing with non-Euclidian topologic that is projected onto a two-dimensional plane, and therefore becoming geometric. „Most kinds of network data require transformation before they can be visually represented in a two-, three-, or n-dimensional social space because the properties of Euclidean distances measured in the coordinate frameworks we work with in the physical world (or in our electronic representations of it) may not hold true for network distances." (Bender-deMoll 2006)

It is also interesting to compare visualization styles to metaphorical concepts used to model networks. Rogers (Rogers 2007) showed how the depictions of link structures and issue networks on the internet related to concepts such as "pathways", abbreviated into the slogan: "Where do you want to go today?"(Microsoft advertisement 1996), how "virtual round tables" were envisioned as circle maps. He explained the trends towards "clusters", or "distributed geography" (Rogers 2007).

Until recently SNA and network analysis in general shared another deficiency: The impossibility or very laborious possibility of dealing with change in networks using static analysis tools and static images without a temporal axis. "The first common visualization approach plots network summary statistics as line graphs over time. (…) However, such summary statistics provide information on a single dimension of a network's structure. For example, one might find that a network reaches a given equilibrium transitivity level, but since transitivity is a single average for the graph as a whole, we cannot know if this - in itself - means the graph is now relationally stable. The second common visualization approach is to examine separate images of the network at each point in time. Unfortunately, such images are often difficult to interpret since it is impossible to identify the sequence linking node position in one frame to position in the next." (Moody 2005)

Dynamic visualization of longitudinal networks in the form of animations and simulations will force tools for graph layouts and other concepts to their limits, and it will bring a lot of changes in the modeling and comprehension of social networks. For a summary of ideas leading to Dynamic Network Analysis (DNA) please refer to: Carley, forthcoming.

Objectification

While observing the research practice in a SNA institution in Vienna, I could identify a nearly complete process from the formulation of the hypothesis, data collection to the analysis of the network that was densely intertwined with the production of visualizations. Network visualizations were produced AND explored, shaped AND showed. They helped realize cognition AND evidence. The analysis of the ongoing discourses had to be expanded to *viscourses* and with this the material dimension comes into

focus. With the visualization of networks, objects are created in physical space. Materiality is given to values and algorithms that even can be touched and pointed at.

For the production of network visualizations the scientists come across at least 4 computer programs after the data was cleaned and manipulated to fit into a network matrix. With the software an uncountable number of algorithms for data analysis and for graph drawing is used on the formalized data. As far as the software is concerned, in all interviews conducted with persons involved into programming analysis and visualization tools, people complained about having to develop methods *on the fly* to answer pressing questions, not having the time to create an appropriate framework.

During image production many forms of media are transgressed: paper (for manual sketches and print-outs), computer, computer networks, projectors, walls, printers, fingers (to demonstrate). The analyst zooms in and out, compares features, different images, e.g., a network with a distribution graph, or the random distribution with the power law distribution. Screens are switched, data is in tables, rankings, or still in Google. Networks are flipped around in up to four (screen-) dimensions, manipulated with spring-embedders or multidimensional scaling.

> "Force-directed or spring-embedder algorithms are among the most common automatic network layout strategies. These algorithms function substantively on an analogy, treating the collection of nodes and arcs as a system of forces, and the layout as an "equilibrium state" of the system. Generally, edges between nodes are represented as an attractive force (a "spring" pulling them together), while nodes that do not share a tie are pushed apart by some constraint to help prevent overlap." (Moody 2005)

If the analyst is still not happy with the result, some features might be changed manually. This is done primarily because there are still too many edge crossings or the labels are not readable. When asked, the observed scientists told me that they wanted to make the images more efficiently understandable, first for themselves and, as soon as they knew more about the network, for the intended watchers. With manipulations as such, images are made even more *evident*.

Meanwhile the visualizations are shown to colleagues, talked about, pointed at and touched. In many SNA presentations idealtypical network patterns such as a triangle/triad mark the beginning of the visual analysis of the network. Then commonly graphs of whole networks (even if they are very complex and just a mesh of dots and lines) are demonstrated first, before it is zoomed into a special region.

The graphs are analyzed and described with metaphors like: "territory", "periphery", "hub", "frozen", and so on. Such enactments of metaphorical spaces are another important quality of network diagrams.

Trans-formation

Images of networks are complex assemblages themselves. Despite the mathematical impossibility of a unique layout and thus many possibilities of visualizing networks as mathematical graphs, most scientists adhere to the style of the node-edge diagram with its common iconography and basic shapes. They are produced from the same graphical dispositives, those nearly "naturalized" diagrammatic shapes, that already Moreno took advantage of. Our "complexity telescopes" (Nees 2005) stem from traditions of astronomy, biology, geography, transport logistics, or chemistry, just to name a few, such visual and scientific traditions that sometimes are forgotten by rather pragmatic network analysts.

From Indian mythology, Chinese maps to aboriginal sand drawings in Australia, the history of the net(work) metaphor is very well documented (e.g. Gießmann 2006). For example Donati (Gießmann 2006) proposed a netting metaphor both in his texts and his diagrams already in 1758, and Darwin just had to keep the tree-metaphor merely not to antagonize the Christian church that would not have been very fond of his coral-like diagrams (Bredekamp 2005) depicting models of evolution where God and mankind were no longer the apex of creation. In his letters he wrote about the beauty of infinite complexity. Also his modeling of the system of the species with the underlying Gestalt of a coral represent his search for a variability in nature, that is not mainly driven by the *survival of the fittest*. On the contrary his aversion of trees and genealogies resulted from his studies of diverse evolutionary strategies, such as choice due to favorable form and the anarchistic power of the ornament and the creative exuberance (Bredekamp 2005). Such rather

ornamental imaging practices contrast with contemporary performances of formalization and operability.

Conclusion

A rising paradigm of strict aesthetic quality control that favors puristic displays in line with the principle of simplicity (*the simplest explanation tends to be the best*) inevitably leads to the scientific paradox of how to cope with complexity through simplicity.

Furthermore standardization efforts to facilitate a more effective data display that draw onto findings (Krempel 2005) of colorimetry, psychology of perception and cognitive sciences tend to blackbox imaging technologies even more. Such intentions contribute to the disjunction principle, which states, that the more natural an image appears, the more its picture has been constructed. Any such closures direct to the problem of methodological transparency. How do we treat apparati that are built upon prevalent conceptions of the human perception and cognition?

Ad hoc drawings seem to be rather cumbersome in times of very large datasets and the idea of representing complete networks. That is why such pictures are mainly produced in a qualitative research approach, e.g. during qualitative interviews or in few studies of ego-centered networks that operate more on a microlevel of analysis.

Depending on the research setting, network visualizations as cultural techniques can be seen as "boundary objects" (Star 1989) with a lot of different ascriptions particular to the needs from the material, but they also function as boundary when dealing with imaginations of networks. The generalized *look* shows the other side of network visualizations - as stabilized iconic entities. Common network visualizations (even if at some stages manipulated manually) result from highly normalized procedures. This paper argues for a deconstruction and decomposition of these procedures to shed light onto the many closures that are taken for granted. While observing scientific practice it could be exposed that such normalization is always accompanied by metaphorical enactments. It is evident that network visualizations obey rather strict theoretical and methodological conventions that are embedded in our imaginations. So here is another paradox: how can such normative images not count as strict and formal methods?

For a tangible examination of the ongoing viscourses we reverted to pre-digital image processing in SNA to demonstrate how symbolic forms and shapes – aside from innovative algorithms or new media developments - affect our thinking of networks. Those forms are still in full effect, but when deeply embedded in techniques, they are "dead metaphors" (Blumenberg 1999).

It was shown when examining the history of network visualization, SNA moved from a rather loose field to a rather normative framework. It is not a coincidence that in the last years there has been a strong opposition in the SNA community (reference: SOCNET mailinglist) against the appropriation of SNA by physicists and developers of social software.

Social scientists are experienced in the formalization of their disciplines but with network images a hidden normalization creeps also into cultural- and media studies. I am not arguing against the use of images in science, social science and humanities. On the contrary I think science should be performed deliberately with all our senses: I just want to show that the implicitness of highly constructed imaginary spaces is very hard to penetrate and overcome.

Can we find alternatives to depict a relation as line or arc? Are dots/nodes and lines/edges the boundaries we cannot transgress when modeling networks? And what does this mean for a theory that is so intertwined with its imaginaries?

With the perspective of network images as powerful "conscription devices" (Latour 1990) the question for a New Network Theory would be: how could we find new land with old maps?

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Internet platforms: cultural production in late capitalism

Olga Goriunova

The talk examines various genres of Internet platforms as instruments artistic and cultural production manifests and develops itself through in the digital age. Art platforms and participatory platforms (aka Web 2.0) are analyzed as different techno-ideological mechanisms aimed at crystallization of a cultural practice or self-realization and optimization of social life. Further, they are regarded as practices united by the quest for creativity in the social context. Creativity embodies the central problematic of today's cultural development: on one hand, it is traditionally understood as the basic emancipatory human activity, on the other hand, it is a resource late capitalism draws upon. The final part of the talk considers failures of Creative Commons and resulting concepts of Free Culture to grasp the nature of production of value in the cultural sphere, their inability to draft the political project of open culture, and considers ways in which online platforms can be seen as structures mirroring the "circulation of struggles" and hosting resistances in their momentarily incarnations of open culture.

ACTOR-NETWORK THEORY AND ASSEMBLAGE

Networks and Suffering

Thomas Berker

Critique

War, famine, torture – since its early beginnings in the 17th Century modern science[1] has – besides other less noble aims – sought to end all unnecessary suffering. Then came the disappointments of the 20th Century when scientific contributions meant to create a better world, became part of the problem instead of its solution. Today, a few years into the 21st Century, there is still modern science, and there is still war, famine, and torture. Being deeply invested in the science of enlightenment myself I find it regrettable that critiques of the bad existing world, which hope to contribute substantially to creating a better world, increasingly have lost both their internal plausibility and external support.

This has lead some researchers, who share my interest, to a defense of the 'critical science' as it was conducted some decades ago. Steve Fuller, for instance, does not like "the Mode 2 conception of policy-driven 'postdisciplinary' research, which welcomes the university's permeability to extramural concerns" (Fuller 2000: 9), because it serves "more centrally located clients" and delivers "on a platter those on the social periphery" (ibid.). He continues: "[u]nder such a regime, if researchers do not provide quality information about their subjects to clients, they will be quickly replaced by someone more willing and able to do so" (Fuller 2000: 11).

This contains one central element commonly held as core condition for critical science: Science has in one way or another to be protected from certain extramural concerns, mainly those imposed by those in power. Otherwise it would necessarily serve those power centres. If this is so, only two alternatives to serving the powerful are possible: In the first one, very much as in the modern stereotype of the authentic artist, the researcher's credibility hinges on his or her ability to live a precarious life without becoming a "sell-out". Alternatively, the most likely candidate to protect research from the interests of (certain) elites would have to be some 'ideal' state, most likely the fordist welfare state. But here we have finally entered the realm of nostalgia. A similar objection is raised with regard to the loss of modern sciences' grand narratives, such as progress through rationality, liberation of humanity, etc. Scholars who refuse to base their research on these grand narratives, such as for instance actor-network theory (ANT), are accused for privileging narrow interests following "the winner's point of view" (Radder 1992: 161). Instead, an "evaluative stance towards social consequences of technology" (Winner 1993: 368) is demanded, for instance against the "militarization of science and technology, especially in this century" (Radder 1992: 151; see also Winner 1993: 370-1).

After the chiliastic visions of apocalypse and rebirth of the 1960s and 70s have faded, we are left without a great unifying narrative supporting such an 'evaluative stance': Neither did the world end in 'nuclear holocaust', nor in a numbing dictatorship of media and commerce, nor in ecological collapse – at least not yet and not everywhere to the same degree. All this just continued, relatively unimpressed by its critics. The result is a mostly defensive 'evaluative stance' which recounts narratives created in a bygone past

[1] With 'modern science' I refer to science in the sense of 'Wissenschaft' encompassing all kinds of disciplines.

while losing its contemporary audience to which these narratives do not mean much any longer.

While I do share concerns about modern science losing its critical function, I do also believe that there is more room for new social positions of researchers and for new narratives s/he is able to convey than these critics are ready to acknowledge. The following brief paper discusses different approaches to a science which commits to making the world a better place to be. They all refer to networks as basic metaphor for how things and/or people are related to each other. The question of this paper therefore could also be "How can suffering and conflict be described in a meaningful way within a relational ontology?" The focus on networks is in part inspired by the topic of this conference. But it also reflects my empirical research conducted during the last five years, in which networks kept appearing in very different settings. And finally and most importantly, I want to see whether radical relational thinking can become a new grand narrative, which can be turned critically.

Space of flows, niches, and the power of identity

When I first arrived in Norway, the country which has since become my home, my job description said that I had to do qualitative research on "The flexibilities of everyday life" and how these flexibilities are connected to media and technology. Living abroad, I felt quite flexible myself, and media and technology's contribution to this (spatial) flexibility was obvious. What I finally did, was to study people like myself, sometimes labelled 'skilled transients' (Findley & Cohen 1995; Koser & Salt 1997), and how they used all kinds of media within their everyday life. What I found was a group of people that was travelling a lot indeed and that at the same time was using all kinds of ICTs. Furthermore they were living and working within weakly defined temporal and spatial arrangements. The work was financed by an European "research and training network" and my colleagues were spread over six countries, which meant a lot of travelling. Spending a lot of time at airports and conference hotels was new for me, and I soon realised that there is a whole world which I never even knew that it existed. Having a decent salary in the idyllic town of Trondheim far up north, I neither did belong to the highly privileged expatriates which flock together in global cities (studied for example by Beaverstock 1991), nor was I in any way marginalised. As participant observer, however, I did become aware of the streams of people, goods and information, which are at the core of Manuel Castells' and Saskia Sassen's descriptions of contemporary suffering and conflict.

Bipolar networks

According to Sassen (1998, 191), there is a "hyper- concentration of resources, infrastructure, and central functions", which is enabled by growing economic liberalisation, digitalisation and globalisation. These tendencies aggravate well known social divides: Increased flexibility in space and time helps to stabilise and extend the privileges of the privileged, while at the same time making the life of the exploited ever more miserable. Thus, both Sassen and Castells locate suffering with those who are forced into a state of marginality. That these marginal groups may actually be quite well connected is the hypothesis of "transnationalism from below" (Portes et al. 1999). With cheaper long-distance calls, low-cost air travel, and Internet, some of these marginalised workers may in fact have opportunities their migrating ancestors did not have. However, this surely does not apply for the most vulnerable groups. So, we are talking about a bipolar structure here, which reaches from the most connected elites to the completely isolated and marginalised, with more or less included groups in the middle.

Conflict

Castells states that "elites are cosmopolitan, people are local"(Castells 1996, 415). There could be a romantic reading of this quote which distinguishes between the happily excluded people and the unhappily included and marginalised. Castells argument, however, is different. Especially in the second volume of his *opus magnus* "The Information age", he describes how 'local people' always already are affected by deterritorializing forces of global flows. These local effects of globalisation are complex and were described by Sassen (2006) as the creation of all kinds of hybrid spaces. Following from this she describes

the 'stage for contestation' as set by "the emergence of a fairly broad based – though as yet demographic minority – civil society in electronic space." (Sassen 1998, 194) She observes NGO's and minority populations becoming increasingly active as 'citizens in the global city' on an international scale (Sassen 2006, 314-6), which creates new forms of conflict between new groups on global arenas.

Different from this, Castells chooses to focus on movements which resist 'the space of flows' by creating and clinging to 'project identities', which are created to withstand globalisation. He concedes that proponents of nationalism, fundamentalism, and social movements against globalisation are not refusing to use Internet or air travel. But they establish their networks explicitly against the global flows of power, therefore they are always bounded in terms of territory or membership. For Castells the conflicts between these reactive movements and the networks 'projected throughout the world' "may be the main potential source of social change in the network society." (Castells 1997: 67)

The studies of Sassen and Castells connect older sociological narratives with new observations. According to them, suffering can be found when people are forced to partake in the flows of global networks creating its new proletariat. The hope of a globalisation 'from below' is to occupy niches at the margins of the global flows and Sassen describes participation even of relatively resource-poor and locally rooted groups in new international struggles. These options suggest a homology between inclusion/exclusion from global networks and connectedness/isolation to/from global networks. Castells' vision is slightly different. He expects a struggle between the juggernaut of globalisation and groups which deliberately refuse to be part of its violent path fighting for specificity, boundedness, and stable identities.

ANT I: Machiavellian submission

To my knowledge, neither Castells nor Sassen go beyond an understanding of networks as 'system light', i.e. dynamic, weakly structured and open systems of heterogeneous nodes and links. ANT claims to have overcome systems thinking. Being based on a radical relational ontology for ANT everything is a network effect[2], i.e. nodes are produced by their links. With that any *a priori* division between humans and non-humans, power and powerlessness, facts and fiction, etc. is obsolete. This is often misread as Machiavellian cynicism, in which mighty network builders not only control political power but also the production of facts according to their fancies. The success and persistence of this narrative of Machiavellian network building can be explained by its affinity to a common understanding of networks as mutual relations of dependence and support (Berker 2006). That being part of a large social or technical network is the same as 'having' power has become a widespread conviction all-present in party small talk, individual career planning, and also when governments try to support innovation networks (De Bresson et al. 1991) to make regions or nations fit for competition.

Having settled in Norway in the meanwhile I increasingly feel the pressure to partake in the Machiavellian enterprise of including nodes to networks. More specifically, for the last few years I have been one of the social scientists involved in an interdisciplinary research project, which is expected to contribute to a reduction in energy consumption in Norway's buildings. My colleagues, mostly architects and engineers, have struggled for years with the fact that their ideas are not adopted in the wild – at least not to the degree they would like to see. Asked what they expect from me as a social scientist, most of them (not all of them, see Berker 2005) answered that they needed data about use and politics which they could use to make their technologies more likely to be implemented. In the words of Machiavellian network building they wanted me to include those into their networks which had so far refused to do become included. In these accounts, connecting things and people becomes the same as having power over people, to make them comply – hopefully for their good.

But, I thought by myself, how much force against its occupants should be exerted in order to save energy in houses? Forcing them at gun point to take a cold shower would work. Put more realistic, automatic systems of environmental control developed by my colleagues

[2] This applies as well to every kind of description and observation of networks, therefore within ANT ontology replaces epistemology.

in fact force users into certain desirable behaviours ('moral technologies', see Jelsma 2003). There is evidence for a structural parallel to Castells' descriptions on the micro level of technology adoption. The literature on the 'domestication' of technology has shown over and over again that and how users referring to resources drawn from their everyday life resist technologies or adjust them to make them 'their own' (Silverstone & Hirsch 1992; Lie & Sørensen 1996; Berker et al. 2006). So, we again have non-local (often even global) networks (of technology design, production, and distribution) on the one side and resistance defending local identity on the other.[3] The strength of this conceptual approach is that it identifies overarching lines of conflict and invites to take sides. I could for example decide to act as spokesperson of end-users taking a stance against my colleagues wishes to make them part of their networks.

However, Machiavellian ANT shares the weakness with Castells' and Sassen's approach that it still treats networks as 'systems light' allowing the heterogeneous complexity of relational ontologies to enter the perspective only up to a point. The degree of connectedness in a network is analysed as a resource which allows some nodes to exert power over others who are less connected. Thus, there is still a notion that there is something which has an autonomous existence outside the networks, be it the individual's 'will to power' or its resistance to being subjected to the will of others. The question parting radical relational ontology (Barad 2003, Law 1999) from other ontologies is where these entities which 'use' networks comes from. One answer is to ascribe some kind of essence to that which is a node-to-be. This leads to a search for entities which are fundamentally different from networks. As we have seen, an essential 'will to power', the end-users' lifeworld, and Castells' 'local people' can be such essentials, which exist outside networks and therefore can use them or be subjected to them producing suffering in the process. In a radical relational ontology, however, nodes are nothing else than nodes, connections are made and unmade continually, therefore being forced into a network (from being something else before) cannot be a source of suffering. The problem I will wrestle with in the remainder of this text is whether there can be a description of suffering which refuses to refer to essences.

ANT II: Non-essential suffering?

In a 'non-Machiavellian' reading of ANT the very possibility of those large networks, be they Castells' space of flows or my networks of energy saving technologies, is never taken for granted, the behemoths' feet of clay are exposed. To achieve this, ANT carefully dissects the manifold activities needed to tie together long chains of associations. The longer the chains the bigger the 'empire', but the bigger is also the danger that one of the intermediaries may betray the chain. In this version of ANT, we have no indication about where main lines of conflict may be located, because every large network consists of local associations – and only them. The whole is not more than the sum of its elements, here systems thinking is finally abandoned.

Irreversible

Instead, for ANT different 'translations' matter. That is how the production of nodes by their links is called. The less stable position within a network a node has, the easier its translation is reversed, the less stable and more multiple it is as entity.

In 1981 Michel Callon and Bruno Latour place themselves: " […] in the warm, light places where black boxes open up, where the irreversible is reversed and techniques return to life; the places that give birth to uncertainty as to what is large and what is small, what is social and what technical." (Callon and Latour 1981: 301)4 This is the foundation of 'ANT's' relational perspective: it thrives when entities are not yet fixed, when nothing can

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[3] The parallel ends with the degree of how conscious and collective this resistance to technology in everyday life really is. After all Castells aims at the shift from social class 'an sich' to 'fuer sich'. In this context research of local groups of consumers, fan clubs, user clubs and so on should be interesting. The input of early adopters on innovation usually is discussed as constructive contribution to design (see Hippel 1988), what about groups of 'early resisters'?

[4] In his 'Introduction to Actor-Network-Theory', traditional sociology (i.e. all non-'ANT') is given the task to work "with what has been already assembled" (Latour 2005: 12), while 'ANT' takes care of the rest.

be taken for granted about their essence. Treating them as if they were always already stabilised as nature or as technology or as social and so forth, is in reality a part of the activity which fixes them and can always be reversed. Sometimes this reversal of a translation is easier and sometimes more difficult. A text by Callon – published ten years later – uses these differences to distinguish between different types of networks. He states that some networks contain more of these 'warm and light' places than others: "[…] the more numerous and heterogeneous the interrelationships the greater the degree of network co-ordination and the greater the probability of successful resistance to alternative translations." (Callon 1991: 150) This kind of irreversibility, according to Callon, is always accompanied by standardisation and normalisation of interfaces which enable the heterogeneous associations to resist alternative translations (Callon 1991, 151). There are highly standardised networks in which a great number of heterogeneous actors are completely and thoroughly acted by the network. Not much to see for ANT scholars here but a lot of tightly locked black boxes. But Callon (1991: 152) maintains that there are also networks where translations are constantly done and undone. These networks are characterised by "strategy, the negotiation and variation of aims, revisable projects, and changing coalitions." (Callon 1991: 154).

Suffering as network effect

One of the points Latour (1993) makes when he claims that we never have been modern is that the difference between the moderns and others is not what the moderns believe it is. It is not their rationality or other typical 'modern' characteristics, Latour writes, but their ability to create somewhat longer chains of associations. And indeed, I find myself surrounded by impressive chains of associations of things and people, which were unknown to my grandfathers.

In what follows, I will focus on one of these, international air traffic. According to ANT there is nothing magic at work when I fly from Trondheim to Amsterdam: if the heterogeneous network of air travel holds, it will allow me to move quickly and relatively unchanged over a large distance. At the place of departure then, a taxi driver with whom I talk English drives me to the hotel which I have booked using the Internet. Of course, the network might not hold – the hotel owner has never heard about me, the plane has engine trouble – but usually it does. Standardisation accompanies me everywhere, most obviously lingually (English!), but also in the form of standards of international air traffic which are invisible to me. But the story continues: Let's say the evening of my departure I decide to 'experience' Amsterdam, therefore I try to 'expose me' to the city, I avoid tourist traps, I drift through streets, I make transient acquaintances, I take an arbitrary bus, I get somewhat lost. Later, when I finally have found the way to my hotel, I already look forward to telling the story to friends and colleagues. My transition from the standardised ghettos of international tourism into a state of temporal reversibility is experienced as augmentation of my travel. Now consider another person, who travels to Amsterdam but as part of much less stable associations, that instable that they might betray the goal of moving from A to B at any time. S/He does not have the money to take a plane so s/he is travelling by land, buses, finally a boat trip organised by people traffickers. At arrival, s/he is lucky and gets with a little help of some remote acquaintances a job in kitchen of the hotel where I am staying. After a few months, however, not having a legal status in the Schengen area, s/he is locked away in a prison and shortly after expelled to his/her home country by plane.

In both stories we encounter stable, irreversible associations and dynamic, reversible ones. The difference is that the large and rigid networks of international air travel are built to transport the traveler smoothly from A to B and back again, while for the refugee it is something which makes travel from A to B impossible (not accessible at first and reversing the travel from A to B later). The networks of hotels and taxis are stable and make movement within the networks of place B possible for the traveller, while they are at the same time the site of precarious work for the refugee.

But also the reversible networks experienced both by me and the refugee, have different consequences. While some controlled complications for me may be experienced adventurous, the refugee is constantly struggling not to have to abort the travel because some fragile negotiation does not work.

Thus, the rigidity of networks as such is not relevant for suffering, it may be enabling as well as disabling. But, as we have seen, these enabling and disabling effects are not equally distributed to the nodes of these networks – and there is suffering.

There is one more aspect of this story which I want to explore. Travelling to Amsterdam am always free to search for other, probably weaker associations – at least to a certain point: leaving the flying plane is not advisable, but strolling around in the foreign city may be a good idea. The different ability to leave rigid associations and to reenter them in our example makes the difference between adventure and nightmare. Thus, networks of reversible and irreversible associations do not simply exist side by side, but exist in a relation mediated by the node's history. The refugee would most likely prefer my way of movement, but since it is not available to him/her s/he uses other means of transportation. These unstable networks of transport then, which are by definition more open for inclusion of all kinds of nodes, act as compensation for being excluded from the more rigid ones. Similarly, the fragile networks of illegal work are related to the official labour market, this time even more directly by providing indispensable support. Where ever we look: These loosely coupled networks surround the large and rigid ones, soaking up those expelled by them, augmenting and supporting them.

I propose that these observations:

- uneven distribution of enabling and disabling effects of rigid networks,
- uneven distribution of the ability to switch between networks of reversible and irreversible associations, and
- systematic and mutual relations between reversible and irreversible translations (compensation, augmentation, support)

are elements of a relational concept of suffering. To shed light on question of suffering, I have focused on those large chains of associations which are rigidly standardised and which are everywhere, such as international air traffic. These, I have argued produce possibilities and restrictions which are unevenly distributed to their nodes. Whether chains of reversible associations then act as compensation, augmentation, or support is easy to identify, as is the suffering connected to it.

This description of suffering in networks leads to a critique of ANT, which is not new at all. In 1994, Lee and Brown have analysed the difficulties of ANT to come to terms with what they call 'the Other'. Similarly, Susan Leigh Star (1991) has suggested that ANT has followed its research objects, ‘heterogeneous engineers’, too closely, so that those excluded by these system builders (e.g. the invisible work supporting them) would become excluded one more time in the analysis.

Ease the suffering – the discovery of reversible translations

I want to conclude this paper by relating my approach to relational suffering to two developments within ANT which have tried to reply to these critiques. Bruno Latour (2005) has proposed that ANT can be the foundation for a peaceful and democratic alternative to the world as it is today. In his model of a process called 'collective' he discusses the relation of inclusion and exclusion of entities as a problem of 'division of power' and 'due process'. ‘Due process’ means that there is a time in the early life of a new member of the collective, where it is not yet fixed. But later on there is also a time – the time of ‘consultation’ – where it becomes translated into something more fixed and then, after it has been placed in a ‘hierarchy’ it is embedded in an irreversible way (‘institutionalised’). During the course of this process, other entities may be expelled from the collective. The ‘dueness' of the collective, however, is at any time guaranteed by making sure that the inclusion, the transition from reversibility and irreversibility and the accompanying expulsions take place in an open, peaceful and democratic way.

It is easy to see that objection based on what was said before is still valid: there is a systematic and mutual relation between those nodes which are held in a state of reversibility and those which are successfully stabilised (compensation, augmentation, support), which resists a democratisation such as it is proposed by Latour.

John Law, also an author of foundational texts within ANT, has answered to this critique in a different way. In 2000 he concluded a text in which he explicitly discussed the

objections made by Star and others by stating that 'ANT' indeed was too much interested in functional networks, which then only can be analysed as a success or a failure. In more recent contributions he has sought to find a way to understand translations which are reversible, but which are irreversibly so, constituting objects which are neither stabilised, nor fractioned into an arbitrary multiplicity. John Law and Vicky Singleton (2005) call two of these object types 'fluid objects' and 'fire objects', leaving open the question if there are more types. They are best described by example. There is first a 'fluid' technology, as exemplified by the Zimbabwean bush pump, which was analysed in depth by Marianne De Laet and Annemarie Mol (2000). The pump was designed by an engineer, but he has written its adaptation to its surroundings into the apparatus. Its parts are easily replaceable and can be patched with other unforeseen parts. Additionally, the pump is designed in a way so that the respective local community is actively involved in every implementation and in maintaining the pump. The engineer stays actively involved in the development and includes improvements he observes. In 'ANT's' terms this pump is not an 'immutable mobile' but nevertheless it is traveling while adapting its shape to the surrounding. This is its fluidity, which gives it a certain degree of multiplicity, but not in a way whereby it looses its shape completely. It is not one but neither many.5 The second kind of objects, called fire objects, also travels. But it does so in unpredictable, disruptive, discontinuous ways. An example for such an object is alcoholic liver disease (Law and Singleton 2005), which is defined by a couple of 'generative absences'. Law and Singleton found that alcoholic liver diseases in practice are constituted by absent alternatives imagined by the practitioners (e.g. abstinence or hard drug abuse, etc). Another generative absence is that the therapy depends on absent conditions outside the reach of those who want to help, for instance, a satisfying social life or work. And finally there is the absence of alcohol itself, which is generative in practices surrounding this disease. All this makes alcoholic liver disease a 'messy' object (Law 2004), which is difficult to study and understand, because not only the practitioner but also the researcher deals with absences s/he cannot know about, but which are constitutive nevertheless. The difference between fluid and fire objects is that fluidity presupposes that the absent Other is smoothly included in a controlled way (the engineer is still there somewhere), whereas in the case of the fire object the Other is taking control over the object in an unpredictable way.

A World of Bastards?

In the ontology of Latour's political ecology, failed objects are expelled during the course of the 'due process'. Distinguishing between different kinds of 'failed' entities and elevating them to the state of 'proper' objects with defined traits – such as fire objects and fluid objects – we postpone their eviction.

Fluid and fire objects may be special cases, which call for special attention. Law, however, argues through reference to his own and to Annemarie Mol's (2002) research, that the inconstancy, multiplicity, and indefiniteness (Law 2004: 145) of the Other can be found everywhere in real-life practices, which are, therefore, in principle 'messy'. According to him this 'messiness' is a by-product of Western metaphysics, which defines 'proper' objects as definite, constant, singular, or in other words tries to convert the bastards to legitimate children and does exclude those who won't fit into the picture. This leads him to call for new methods of scientific work that are able to deal better with this kind of otherness without trying to extinguish it from both method and the real world.

To account non-inclusively, non-exclusively, and non-instrumentally for the often surprisingly robust bastards of the reversible and the irreversible gives us access to a whole new world of objects, which were invisible before. When we are looking for them, we suddenly encounter a host of bastards, such as ad hoc improvisations, which sometimes last longer than any carefully crafted 'immutable mobile' (and nobody fully understands why) or 'zombie objects' which should be dead but do live on, because they are just too monstrous to die.

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[5] 'Fluid objects' share this feature with 'boundary objects' (cf. Star and Griesemer 1989). The focus, however, is not on how these entities relate social worlds to each other, but on how their fluidity allows them to travel through ever-changing associations.

Whether we want a world ruled by definiteness, constancy, singularity or – on the contrary – a world, which is filled by indefinite, multiple, ever-shifting bastards, all this becomes a question of 'ontological politics' (Mol 1999) in the end. John Law calls an ontological politics which aims at definiteness, constancy and singularity a "class politics of ontology which is bad" and continues to say that "[g]reater permeability and recognition of fluidity and all the rest, overall this cannot be a bad" (Law 2004: 149).

Can it be a bad thing? To be sure, there is a whole host of fears which is be fuelled by fluidity6. Put more generally, the endless struggles for stable national, group and individual identity in modernity have all their indefinite, multiple, dissolving Other, be it 'eternal Jews', overflows of migrants, or other forms of overwhelming difference. And they sometimes fight these Others to their last breath. At the same time, in modernity more bastards of the known and the unknown were created than in any historical period before. The restless urge of the moderns to meet the unfathomable Other, to reach the boundary of the kn/Own and to cross it, is what makes them tick. With this, Castells' vision of a conflict between flows and reactive identities as 'the main potential source of social change in the network society' is set into a new perspective. Privilege and exploitation appear as not being distributed between 'cosmopolitan elites and local people', but along systematic and mutual relations between a host of stable associations producing stable entities and transient relations which are populated by fluidity and fire.

Conclusion: Critical visions

The narratives presented here – Castells' and Sassen's new 'class' struggles, Machiavellian ANT's networks as resources, my own little story about compensation, augmentation and support, Latour's due process for the collective, and finally Law's praise of 'greater permeability and recognition of fluidity and all the rest' share a great meta-narrative about the end of systems in complexity and relationality. They differ in the degree to which they maintain that there are still essential entities transcending their links. I have tried to show how they all can inform a science which tries to continue the project of making the world a better place.

They all refer to networks as basic metaphor, but they differ in the place they situate the narrators in these networks, which gives them a different 'situated' and therefore 'partial vision' (Haraway 1991)7. Castells and Sassen do the kind of sociology, which is very much influenced by their own participation in the global flows and networks which they describe. They keep a distance from what they describe and synthesise an impressive amount of different stories from all over the world. This distance, however, may also restrict their understanding of networks, which then appear as 'systems light'. From the very beginning and extending to today, Latour places the himself at those 'warm and light places' where all is reversible and where therefore 'rapidly revised' suggestions of how we can live together can be proposed and discussed. His vision of reversibility as space of possibilities resembles that of an engineer or planner who soon will fill this void with wonderful structures. Law together with others has moved from there to the spaces between reversibility and irreversibility, where suffering can be found, but also a whole new world of entities and potential alternatives to the world as we know it.

As for me, I would like to end this text with a last visit to my own research. Our interdisciplinary project has reached its end and my colleagues, engineers and architects, have produced plans for irreversible translations of things and people and how they can be chained together forming an energy efficient building. With the perspective developed here, I am able to assess their plans critically by asking the following questions:

How do these plans distribute enabling and disabling effects of these stable networks unevenly between the involved nodes? Building automatisation, for instance, produces environmental parameters (temperature, oxygen level, etc), which enable some occupants to be in the building without ever even thinking again of adjusting these parameters. For others, who need other parameters, it becomes a curse, because they lose control over their environment. But not only occupants should be included in this kind of

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6 One of the most vivid description of what fear of fluidity can do is Klaus Theweleit's classic psychoanalytic study of male fascist torturers' fantasies (Theweleit 1987).

7 as opposed to the impossible 'the view from nowhere'

analysis. Janitors, energy suppliers, building owners, and many other entities will be enabled or disabled in different ways from different solutions.

What are the options for leaving the rigid systems temporally, for example in manual overrides of these automatic systems, and how are these options unevenly distributed? Do they exist at all? I they exist, how are they designed? Different designs will enable different users, complex computer based controls, for instance, will be enabling only for occupants well versed with this kind of control.

Law's ideas about fluid and fire objects, finally, may open for alternative ways of thinking energy efficiency in buildings differently altogether. After all, energy efficiency is defined by a generative absence (the absence of energy consumption) and is, thus, a fore object which is extraordinarily difficult to stabilise. The local adaptability of the engineering of fluid object a la 'Zimbabwean bush pump' may therefore very well be more adequate to the problem than classic engineering of large, standardised and stable chains of irreversible translations.

Where in the network does such an approach situate me?

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Actor-Network Theory – ontologizing realities[1]

Betina Szkudlarek

Introduction

How can improve our theoretical understanding of the complexity of organizational practices? How can they be conceptualized, comprehended, described and analyzed in spite of their density, multiplicity and continuous change? How can we provide an account, which uncovers the organizational processes, exposing them to the "daily light" but not twisting or distorting them at the same time? Which theoretical frameworks facilitate their understanding (and contribute to their development) without oversimplifying the wealth of mini-occurrences composing all organizational events and without overlooking potential for future change hidden within these events? First of all, qualitative paradigm in sociology of organizations (Denzin and Lincoln, 2003) offers a convenient starting point. Second, within the broad spectrum of theoretical frameworks within this paradigm, the proximal approach to the analysis of organization (Cooper and Law 1995), offers an interesting instrument for conceptualizing ongoing processes, accounting for a researcher's complicity in constructing, re-constructing and de-constructing organizational realities. Focus on openness (of organizational interactions), on multiplicity (of organizational realities) and on becoming rather than being are options, which this theoretical framework for empirical and participative research projects advocates. Within this qualitative paradigm and within this proximal framework the Actor-Network Theory (ANT) shall be examined. Does it help us better elucidate and orchestrate organizational processes?

I shall examine the work of Callon, Latour, Law and other representatives of Actor-Network Theory in order to explore their three different approaches within the same theoretical line of inquiry (qualitative, proximal, ANT). Are they relevant and do they contribute to understanding of organizational processes more than their research competitors? Analyzing their contribution, we should generate a significant side-effect, namely a state-of-the-art, up-to-date, wide-ranging, yet pragmatic, application of Actor-Network Theory approach(es) to the area of organization studies. Tracing back an evolution of the theory I will try to perform ANT[2] (Law 1999) in its distinctive modes of operation, which developed in three decades after the theory emerged. I will distinguish and discuss three different forms of social topologies and three distinctive "objects", which can be enacted if one follows them in research practice; namely a network, a region and a fluid. Moreover, in my own application of ANT to the problems of re-entry trainings in contemporary organizations Moreover, in my application I will attempt to remodel, adapt and carry out an ANT approach suitable and sensitive to an analysis of organizational processes.

One of the very substantial contribution to Actor-Network Theory was Callon's paper from 1986 in which he names the newly-born approach to the study of power: 'the sociology of translation' (Callon 1986, p. 196). Despite the fact that this name did not receive sufficient support and instead the highly controversial hyphen Actor-Network Theory overshadowed founders' proposition, sentiment to features of transitional approach reoccur in consecutive works of ANT's scholars. Law (1999) provides a description of ANT's developments over two first decades of its existence and stresses the contradiction of meanings behind the term 'translation', which evokes both the similarity and difference. Consequently, Law concludes that each of ANT's applications bears some resemblance to the

[1] This paper is a draft of the theoretical underpinning of author's doctoral dissertation.

[2] I use the verb "to perform" in two meanings, (1) that of enactment, where my research performs certain reality and (2) that of presenting, where others can look at and view my conception of ANT within organization studies.

original theoretical "matrix", as well as partly constitutes a betrayal of the theory[3]. I do not expect to break free of this dualism. Thus my translation of ANT (despite theoretical loyalty to the paradigmatic matrix) will definitely be burdened with a pinch of disloyalty and twisted by divergence. Law tries to address the connections and the divergences of diverse accounts of ANT in research practice. He summarizes a number of features, which could be seen as representing the identifying factors among varieties of Actor-Network theoretical accounts. Law starts the argument by bringing forward the characteristics of an early ANT approach focused around the notion of materially heterogeneous network understood as a process rather than as an end-effect. Network is thus an emergent pattern of interactions, not a stable end-product of the latter. Network's elements are not fixed and stable; they are equally capable to act upon one another, improvising, so to speak, their new roles on the evolving networked "stage". Some functions of these elements could be imagined as a "script", in which different entities are cast in different, "prescribed" roles, but improvise and change them as they start acting. Sustainability of these networks requires continuous and far from routine "maintenance" work. A focus on a network[4] tactic was characteristic for an early ANT, but what Law pointed out is that an Actor-Network approach did not only have to deal with centering and sustainability. Theoretical developments reflected growing concern with flexibility and ability to re-structure and co-evolve. Mobility of all the participants and transformability of the objects are at the core of late ANT, an ANT, which enables researchers to talk about fluidity of objects; an ANT, whose followers cannot be approached as authors of a singular and coherent narrative (despite attempts on the part of some of the researchers trying to impose a degree of uniformity on their communities of practice[5]). In view of the multiplicity of approaches the question arises: what actually is ANT, after all? Law gives an evasive answer:

> "if you ask me about this thing called 'actor-network theory', would it be better for me to say that we're dealing with a set of diverse practices instead of a single set of principles? (…) I can say yes, or no. But I'm more interested in diverting the question, in turning it aside, rather than answering it. This is because (or so I want to suggest) it is going to be much more interesting to explore differences than similarities. Much more interesting to trace betrayals in the practice of translation than insist there is a general set of actor-network principles. For this is my point: (…) actor-network theory (…) has passed from one place to another. From one network to another. And it has changed, become diverse. And it is my object to attend to some of those changes. To attend to the noise in the actor-network machine, its ragged complexities, rather than to attend to its gleaming purity." (Law, 1999; p.5)

What is even more interesting, the author is aware that this particular "performance" might not even be classified by some as ANT-ful enough to be included in the family; nevertheless she is willing to take this risk and stay truthful to her reading and contribute to ontologizing of the object under scrutiny. Ontologizing, because as Law reminds:

> "we are no longer trying to find good ways of narrating and describing something that was already there. Instead, or in addition, we are in the business of ontology. We are in the business of making our objects of study. Of making realities, and the connections between those realities. Of making the realities that we describe. Of trying to find good ways of interacting with our objects, ways that are sustainable, ways that make it possible to link with them. So that is traduction, a similarity. But trahison, difference, is not far behind. And the difference has to do with the form of ontology being performed." (Law 1999; p. 10)

Re-entry training and ANT

Next to mentoring programmes, re-entry training sessions are among the most often recommended strategies for effective repatriation of intercultural sojourners (Martin & Harrell 1996, Black, Gregersen & Mendenhall 1992). Re-entry trainings could be

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[3] One of the stories brought forward by Law is an account of infertility treatments in California (Cussins, 1998). Law points out that while traditional ANT focuses on centering, Actor-Network Theory narratives might as well describe the process of disconnecting things from each other.

[4] Related to network is also regional topology, as described by Latour and Law.

[5] Latour's "Reassembling the social. An Introduction to Actor-Network Theory" (2005) is one of the most recent trials, where of ANT's founders strives at creating a singular, grant narrative of what ANT is and what the rules of its application should be. In my opinion, this manoeuvre can be seen as nothing more than a desperate attempt to dominate the field and impose One "correct" reading of this enormously diverse and multiple area of inquiry.

provisionally defined as a form of interactive communication sessions aimed at providing knowledge, skills or motivators directed towards facilitation of the intercultural re-entry process and designed to diminish the discomforts related to the repatriation phase (an experience often labelled 're-entry shock' in literature). But could we say anything more salient and relevant about this international HRM practice after our in-depth scrutiny? How does the phenomenon of re-entry trainings emerge inside the organizational processes, how did it come into existence? How does it happen that despite so many question marks related to design, implementation and results of this particular intervention (not to mention uncertainties as to its overall efficiency) - it actually is implemented in numerous multinationals and other organizations dealing with the issue of international sojourners' repatriation?

Complexity, contradictions and paradoxes have been first revealed in an initial analysis of 25 interviews with re-entry trainers from a number of organizations. These in-depth interviews are a point of departure for this research. Re-entry training, despite being a topic of an increasingly sophisticated and large body of research literature, in practice does not hold a recognized position within corporate rituals surrounding expatriation cycle and therefore requires constant maintenance work on the side of trainers. Trainers' work is necessary in order to implement and afterward secure re-entry trainings' legitimate existence within a wide spectrum of international HRM practices. Taking into consideration the complexity of ontological labour related to creating and afterwards maintenance of the object of study, the Actor-Network Theory seems to offer the most promising research route, in which the proximal worldview, that of multiplicity, development and unceasing construction of objects is recognized and carried out. As Law and Urry (2004) pointed out - social inquiry needs to revise its repertoire of methods and applying ANT to the problems of re-entry training offers a convenient chance to check the possibility of modifying this repertoire ANT-wards. In the present research project, I try to follow up the authors' claim that different methodological choices yield different realities. It is not a mater of epistemology only; the performative shift in social inquiry makes us co-responsible for shaping organizational realities as we investigate them (every description changes the described reality forever). Through this performative shift in understanding our research choices, we are entering the world of ontology, together with its political consequences. Multiple social topologies (Mol and Law 1994, Law 2002, Law and Mol 2000, Law and Singleton 2005) of ontological realities belong to core concepts of the so-called late ANT approach. ANT distinctive modes of approaching realities; those of networks, regions and fluids enable researchers to enact the multiplicity of objects. Cross-cultural re-entry training will serve as an example of an object which can be performed (and its performance monitored by reflexive participating researchers) in those three distinctive spatialities. Each of the methodological choices will produce a different object, a distinct HRM practice, but only by performing such multiple inquiry can we at least try to get closer to understanding organizational complexity. Law and Singleton (1999) acknowledge ANT's awareness of political agenda setting behind every description of the world. Therefore each distinctive approach enacted in this research will sketch another issue, aspect, concern related to re-entry training, and as such, to broadly understood human resources management practices.

a) Network spatiality

The first point of focus is on Callon's model of the so-called sociology of translation and the network spatiality (central for early Actor-Network Theory). Network spatiality can be understood as a system, where relationships between different elements of the arrangement are the constituents of that system and 'objects are an effect of stable arrays or networks of relations' (Law 2002). By applying the initially proposed ANT model to the re-entry training phenomena I will not only perform the network ontology, as described by Callon but I will also attempt to explore an additional element helpful in enhancing our understanding of organizational processes. I argue that the continuity and sustainability of organizational practices should be investigated by adding one extra component to Callon's framework. While presenting an ANT-inspired analysis of empirical data I claim that the virtuous

cycle of organizing[6] can be better understood by exploring the phenomenon of re-cycling of previously enrolled actors. I argue that the so far applied 4-element model of sociology of translation needs to be extended in order to understand and describe the continuity and sustainability of organizational practices. Callon outlines 4 phases belonging to the sociology of translation "during which the identity of actors, their possibilities of interaction and the margins of manoeuvre are negotiated and delimited" (Callon 1986, p. 203). Those 4 phases are as follows: problematization, interessement, enrolment and mobilization; each of them involving new resources, engaging new strategies and creating new artefacts. The four-element translation process requires constant work and maintenance efforts in order to sustain the network. An Actor-Network approach to the analysis of the cross-cultural re-entry training phenomenon revealed that the abovementioned 4 phases of sociology of translation are insufficient to understand in what way the virtuous circle of this international HRM practice is reproduced. The process of translation goes beyond enrolment and mobilization of actors and involves what I will call the 're-cycling' of previously enrolled actants. In this phase, the actors share (or in extreme cases even take over) the "spokesperson" duties of reiterating the process of translation and are transformed from 'enrolment targets' into 'enrolment tools' ensuring the continuity of the cycle. In the collected data, such re-cycling of actants took two distinctive forms: (1) a deliberate participation in the process, where the previously enrolled actors actively and voluntary involve themselves into enrolment of new actors and (2) an unintentional participation, where actors' representations (Cooper 1992) have been reprocessed into new enrolment tools. Such an extension of Callon's framework sheds a new light on role and importance of enrolled actants in reinforcing organizational ordering. Related to that are also ethical consequences linked to (especially in case of unintentional participation) recycling processes.

b. Region spatiality

The second social topology employed is that of regions. However regions are not understood in an Euclidean, three-dimensional-manner. Instead, a region is defined as a space "in which objects are clustered together and boundaries are drawn around each particular regional cluster" (Urry 2000). In contrast to networks, objects within the regional topology do not have to be linked or interconnected. In case of cross-cultural re-entry training the regions delineated are those of business/ corporate versus non-governmental/ voluntary reality. Within those two clusters, two different re-entry trainings are performed. Those two re-entry trainings performed, despite crossing geographical borders and despite no clearly defined connections within the clusters, show unanticipated within-region homogeneity. More interestingly, while keeping its identity across the regions, an object displays several very different features, of which we would expect that it is impossible for them to coexist in both regions. And it is because of those substantial differences that the object as such can function in both regions at the same time. Is this an argument for increased diversity advocated by some researchers? Latour (1987) builds the notion of immutable mobiles, objects which are capable of moving across space – indicating the mobility, however still keeping certain core qualities constant, hence the immutability. In case of this research's ontologized object we can see how untypical and non-standard (in comparison to previous ANT accounts) some research objects, including those, which were so far considered immutable mobiles, can be. The movement and immutability we observe leads beyond the inscriptions traditionally considered immutable. Instead it is attributed to much more immaterial objects such as unwritten codes of conduct. Those implicit codes of conduct circulate between different entities delimitating temporary borders of the regions and defining its characteristics. They do travel across the regions (understood in a Euclidean manner); however they do it much more silently and tacitly.

c. Fluid Spatiality

The third conceptual option designed by researchers following the Actor-Network Theory in order to look at social topologies of objects is that of a fluid. As Mol and Law (1994)

[6] By virtuous cycle I refer to a notion of successful reiteration of organizational practices.

describe it - in the fluid topology we do not have firmly defined borders like in regions; neither can we define a well established set of relationships like in networks. Here the boundaries and the connections are blurred or even undistinguishable. An object exists because it is being given the possibility to develop, evolve and change and that mobility, instability and wavering are conditions under which an object constantly retakes its shape. Those changes are smooth and subtle rather than sudden and violent; new elements might join and old pieces might fell off (Law 2002). And that is what it takes for a re-entry training to exist. Its constant transformation and adaptability is what is essential for an object to keep its identity and to assure its existence in a long term. It is not a strong network of relations, neither is it a regional membership, which we can define as constituting the object. Star (1992)[7] brought into Actor-Network Theory a notion of boundary objects. Boundary objects "are both plastic enough to adapt to local needs and constraints of the several parties employing them, yet robust enough to maintain a common identity across sites. They are weakly structured in common use, and become strongly structured in individual-site use" (Star 1992). Re-entry training exposes all of the features described above; while being rather blurry and not precisely definable in a universal outlook, it becomes firmly ordered in its actual application.

The concept of boundary objects is crucial to look at how different social topologies are acted out in different enactments of objects. What one needs to do in order to discover a fluid topology is to suspend for a moment the dominant modes of understanding spatialities. Having said that, one can clearly notice a deviation of the way of reasoning and understanding of topologies presented here from Law's claim that different social topologies are uncomfortable (Law 2002). On the contrary, this research advocates that those different spatialities can, and mostly do, coexist in different perceptive dimensions (which make them less uncomfortable in spite of predicted incommensuriabilities). Once we take our focus from the networks of power, being geographically local or global, once we stop grouping the occurrences into regional clusters, a new spatial ontology has a chance to emerge. In case of re-entry training, what seems to be a network from a close-up or a region in a medium-range can be only comprehended as a fluid in its full spectrum. If we just step back and try comprehend all the individual episodes and all the regional clusters we notice that the re-entry training exists only because of its transformative potential, its openness, its indefinable character, its fluidity. So what one could claim is that a question of uncomfortable spatial topologies could be understood as a matter of scale. What might appear in a close scrutiny as a tight network or region, in a broader scale could be a potent fluid. What in a local application temporarily takes a more concrete shape, in a broader perspective lives out constant transformation.

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[7] Check also Star and Griesemer (1989) and Star (1989)

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Open Cartographies
On Assembling Things through Locative Media

Michael Dieter

> The utterance is the product of an assemblage – which is always collective, which brings into play within us and outside us populations, multiplicities, territories, becomings, affects, events.
>
> Gilles Deleuze & Clare Parnet[1]

Locative media has routinely been understood through theories concentrated on spatial analysis and the virtual annotation of urban landscapes. Such discourses often rely on a latent utopian desire for place-bound modes of community and stable social relations, for the structural determination of complex and disorientating informational flows. While contemporary trends imply a transition away from 'cyberspace' towards mobile objects, things or actual spaces filled with information ('the Internet of Things'), undercurrents of libertarianism continue to influence and demarcate this shift. Ben Russell's influential *Headmap Manifesto*, for instance, outlines at length a future where wireless, location aware, networked devices fragment the nation-state through mutable cartographies, restore societal relations and empower the individual as consumer-entrepreneur in a borderless global economy.[2] While explicitly framed as speculative, exploratory and anarchic, the close link established between a kind of materialist ontology and political emancipation has become a recurring trope in the commentaries on locative media. To a certain extent, the trend corresponds with a desire to transcend the limits of postmodern theorisation and the apparent 'elitism' of net.art, however, a range competing motivations and influences have emerged in the diverse fields that have converged around the topic of augmented reality.[3] For researchers Ann Galloway and Matt Ward, new archaeological techniques developed in conjunction with photography, GPS and cartographic mapping coincide through locative media as social platforms.[4] This correlation is identified with the activation of static architectures in order to restore 'hope' through the transformation of urban landscapes. From a similar perspective, artist and theorist Jeremy Hight has described how forgotten social knowledge and histories can be recovered technologically, triggered from the landscape through site-specific awareness:

> "The authoritative voice of intellectual discourse is counter-intuitive to creating works that speak of place, events, moments, important layers of a place lost in time. Instead of the voice of authority, what is needed is the voice of the work and location itself: the information, the artistic use of language and image and most of all, of the agitation into being of a location as multi-tiered, alive."[5]

Forms of transitory civil unrest, protest and dissent are imagined as being recorded by situated archiving, stored for future access as evidence of political activism. This position draws from a desire for authentic modes of remembrance and tangible representations of the past guaranteed by new media, embodiment and place. While skirting a set of broader debates surrounding memory practices and technology, a series of questions still emerge on

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[1] Gilles Deleuze and Clare Parnet, *Dialogues II*, trans. Hugh Tomlinson and Barbara Habberjam (London: Continuum, 2006), p. 38.

[2] Ben Russell, *Headmap Redux*; available at <http://www.technoccult.com/library/headmap.pdf>

[3] Marc Tuters, 'The Locative Utopia,' in *The TCM Reader*; available at <http://locative.net/tcmreader/index.php?endo;tuters>

[4] Ann Galloway and Matt Ward, 'Locative Media as Socializing and Spatialising Practice: Learning from Archaeology,' *Leonardo Electronic Almanac*, Vol. 14, No. 3: available at <http://leoalmanac.org/journal/Vol_14/lea_v14_n03-04/gallowayward.asp>

[5] Jeremy Hight, 'Locative Dissent,' in *Sarai Reader 06: Turbulence* (Delhi: Sarai Media Lab, 2006), p. 129

the topic of mediation, however: how is a 'location' articulated in the first place? And what forms of intuition, if not intellectual, are appropriate to 'the voice of the work'?

While future-orientated theorization represents an important mode of political thought, the materialist turn underscoring locative media discourse needs to be examined at the interface with current institutions and collective utterances. Throughout the past decade, the liberalization of GPS, Geographic Information Systems (GIS) and the rapid adoption of mobile devices have provoked a transformation of perception around the political capabilities of these technologies. In this context, mapping techniques once associated closely with repressive state and colonial power are increasingly viewed as democratizing access to information and resources. This has occurred paradoxically with the growth of restricted modes of surveillance, data aggregation and profiling from all sectors: those directed at the accumulation of capital, improved efficiency in information manipulation, the organization of political movements, governance and terrorism.[6] As a tentative step into this complex situation, I want to pursue an approach to locative media capable of promoting access to knowledge on a broad-based scale, while remaining open to difference, transformation and change. This involves approaching specific events in the midst of their construction, and remaining equally aware of a context defined by extreme measures of freedom and control.

Surveillance Trajectories

> "i don't want to spoil the party, but i have always understood the term 'locative' as pointing in both directions, the potential for enriching the experience of shared physical spaces … but also fostering the possibility to 'locate,' i.e. track down anyone wearing such a device. this does turn the 'locative media' movement into something of an avantgarde of the 'society of control.'" - Andreas Brockmann[7]

While the field is evolving, the inability to fully disentangle the artistic ambitions of counter-cartography from those of surveillance and commercial spectacle represents a significant political challenge, particularly in terms of influencing the critical awareness of social collectives enmeshed in unequal expressions of power. Routinely justified as management techniques to guide complexity and authorise control, network systems of observation have become socially normative; in the extreme, they are directed toward all-encompassing visibility and 'overexposure.' According to Paul Virilio, the culture of convergence is fundamentally motivated by this impulse for 'total vision,' where global perception always involves an agreement to be controlled in the form of a counter-image.[8] With digital communication networks, these kinds of mediated supervision are presented as symbolic exchanges, but are increasingly actualised as informational feedback. For instance, such transactions are readily apparent throughout organisational structures where labour accountability means being constantly identified and monitored; i.e. workplaces which track Internet use, inspect email and enforce centralised software management. Even outside institutional environments, casual web browsing is characterised by multiple logins, 'cookies' and the solicitation of personal information through compulsory consent.[9] These subtle methods, though heterogenous and discrete, are commonly obscured through discourses of assistance, optimisation and safety to enforce hierarchies of control. Self-disclosure might instantiate the underlying principle (a contract that refers to the *willingness* of users to be surveyed), but the conditions of entry are almost always differential.[10]

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[6] Brian Holmes, 'Counter-Cartographies' in *Else/Where: Mapping New Cartographies of Networks and Territories*, ed. Janet Abrams & Peter Hall (Minneapolis: University of Minnesota Design Institute, 2006), pp. 20 - 25

[7] Andreas Brockmann, 'Exhibiting Locative Media (Crumb Postings),' ed. Beryl Graham, *Mute Magazine*; available at <http://www.metamute.org/en/html2pdf/view/6721>

[8] Paul Virilio, 'The Visual Crash,' in *CRTL [SPACE]: Rhetorics of Surveillance from Bentham to Big Brother*, ed. Ursula Frohne Levin & Peter Weibel (London: ZKM/MIT Press, 2002), p. 110

[9] Alan Lui, *The Laws of Cool: Knowledge Work and the Culture of Information* (Chicago and London: University of Chicago Press, 2004), p. 141 –175

[10] Greg Elmer, *Profiling Machines: Mapping the Personal Information Economy* (Cambridge, MA: MIT Press, 2004), p. 6

In the provocative essay 'Drifting Through the Grid: Psychogeography and Imperial Infrastructure,' Brian Holmes considers the impossibility of fully escaping the abstract spaces of global surveillance produced by and governed through the logic of total information awareness.[11] In this account, liberalised military systems gain legitimacy and become ideologically reinforced through the participation of a 'world citizen.' Holmes applies the concept of interpellation to describe the aim of GPS tracking, from the satellite atomic clock in orbit to the personal receiver on the ground. To be hailed by this structure is to enter into a relation with 'Imperial time,' an exchange initiated by the promise of security. From his perspective, the locative media slogan, 'know your place,' takes on an ironic inflection when considered against the integration of civil society with military systems of control. While advancing a bleak and somewhat exaggerated account of social objectification, this critique can be read as a reminder of the entanglement of satellite technologies with governmental institutions and regulatory bodies. NAVSTAR GPS is officially managed by the United States Air Force, and is currently made available for civilians as a public good.

For the present, keeping 'out of sight' appears politically misguided. This refusal merges with a political investment in privacy consistent with the asymmetry of panoptic technologies. That is, information mapping and the extraction of data are precisely driven by privatization to the extent that the solicitation of personal information is marked by a disparity of access rights. In this setting, the public or masses are consistently determined by a *lack* of sufficient knowledge concerning surveillance. Accordingly, new media artist Drew Hemmett observes that "locative media's political moment might not be despite its complicity in mechanisms of domination but because of it, residing in the acceptance of the paradox and occupying the ambiguous space it creates."[12] Access to and the exploration of GPS, digital cartography and remote sensing should, therefore, be encouraged as a reflexive gesture, as a critical unfolding capable of exposing collective knowledge of these techno-scientific practices to their own internal logics. Actual map-making, of course, has always been a highly fraught and contested endeavor.[13] The goal should not be to undermine the 'objective' status of this practice, but to examine the multitude of concerns already present, revealing processes of production and "situating the terms of access to military infrastructures and capitalist ventures."[14] Locative media is capable of advancing our thinking on these matters through participatory and public narratives.

To consider social cartographies as being process-based, however, represents a significant conceptual challenge. This means, as Ned Rossiter puts it, not simply tracing the course through which a triggered event unravels, but diagramming the alternate layers of partial actors, space and time operating as conditions of possibility.[15] The significance of such an approach emerges in confrontation with fleeting articulations of power, by illuminating the *interactions* between various partial entities (both human and non-human) that constitute an aggregated network. Charting these relations can allow the limits and limitations of a collective to be visualized, rendering lines of force in order to increase the effectiveness of their interruption. In my reading, these concerns are usefully addressed by the concept of assemblage, drawn from the work of Bruno Latour and the 'sociology of associations' – Actor-Network-Theory – as an 'object orientated' theory capable of speaking to a world constituted by forces, vectors, shapes.

Social Assemblage

In the philosophy of Latour, the term assemblage refers to the complexity of socio-technological ensembles. Most significantly, the concept refers to the constitutive power of

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[11] Brian Holmes, 'Drifting Through the Grid: Psychogeography and Imperial Infrastructure,' *Springerin*, March 2004; available at <http://www.springerin.at/dyn/heft_text.php?textid=1523&lang=en>

[12] Drew Hemment, 'Locative Dystopia 2,' in *The TCM Reader*; available at <http://locative.net/tcmreader/index.php?locarts;hemment-dystopia>

[13] See John Pickles, *A History of Spaces: Cartographic Reason, Mapping and the Geo-coded World* (London: Routledge, 2004)

[14] Andrea Zeffiro, 'The Persistence of Surveillance: The Panoptic Potential of Locative Media,' *Wi: Journal of the Mobile Digital Commons Network*, 1.1, Fall 2006; available at <http://wi.hexagram.ca/>

[15] Ned Rossiter, *Organized Networks: Media Theory, Creative Labour, New Institutions* (Amsterdam: NAi Publishers, Institute of Network Cultures, 2006): p. 164

agency, signifying not merely a structural layout or schematic, but a procedure or process of assembling. The expression – meaning to fit, arrange or organize – refers to a regime of enunciation, an associative mode of reality, or a way of exploring reality that involves weaving together disparate elements.[16] Here, technology is construed as an adjective: it encapsulates the translation of properties between inert, symbolic, animal, concrete and human entities, arranged on an equal footing, but aligned with diverse allies. The result is democratic ontology where every object has equal rights, but the relations between them determine unequal distributions of power. Truth, facts, knowledge are all understood as being constructed and fabricated from the outset, so the key question is how durable or reliable is a network? This mode of social inquiry begins by testing the robustness of a group, by examining "its strengths and weaknesses in order to project it into a feasibly accessible form."[17]

In an active sense, to trace these relations is to visualize the terrain pertaining to the technical; it involves mapping the partial components that constitute an assemblage. In this context, Latour considers an ordinary hammer to illustrate the point.[18] He imagines clasping the tool as being enmeshed in a 'garland of time', a coming-together of assorted temporalities or time differentials that account for the durability of the object. That is, the antiquity of the planet caught in mineral components, the age of the oak tree shaped into a handle, or the period since being produced in a German factory for the marketplace. Likewise, various spatialities are disclosed from this quasi-object: from the forests of Ardennes, to the mines of the Ruhr and the tool van offering discounted wares on Paris streets. This unfolded reality of diverse times and contrasting spaces is grouped around the object through the consistency of its formation:

> "There is nothing less local, less contemporary, less brutal than a hammer, as soon as one begins to unfold what it sets in motion; there is nothing more local, more brutal and more durable than this same hammer as soon as one folds everything implicated in it."[19]

Defining how such an overflowing flux of bodies, partial entities, states and temporalities can be contained, however, requires a final disjuncture, an element of indeterminacy that confers agency to the fold. To wield a hammer is to undergo a transformation, since as temporality and space are folded, so too are actants. In one sense, this means the object always inherits a variety of forms, a complex past that structures its solidity. But more importantly, a hammer also provides a force by amplifying the direction of an arm; that is, through translation, "displacement, drift, invention, mediation, the creation of link that did not exist before and that to some degree modifies the original two."[20] This concept of co-emergence or becoming is a reoccurring theme of process-based thought; for Deleuze and Guattari, an assemblage is described as an abstract line or speed. To enter into this formation involves establishing a relation to speed, either accelerating or slowing down.[21] Accordingly, relations between entities cannot be thought of instrumentally, but must be considered as transformative. To grasp a hammer, an individual changes, becomes 'other' by passing through alterity, the alteration of that folding. The possibilities that emerge cannot be foreseen in advance; transductions begin by exploring heterogenous universes, behind which trail new functions.[22]

This complex triple relation of places, times and actors is subsequently described as producing a labyrinthine structure; an ontological drama that significantly complicates any view of technology as simply 'a means to an end.' To enter into this crooked maze is to

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[16] Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory* (New York: Oxford, 2005): pp. 1 - 17

[17] Graham Harman, 'The Importance of Bruno Latour for Philosophy,' *Cultural Studies Review*, Vol 13, No. 1, March 2007: p. 44

[18] Bruno Latour, 'Morality and Technology: The End of the Means,' trans. Couze Venn, *Theory, Culture & Society*, Vol. 19 (5/6), 2002: pp. 247 - 260

[19] Latour, 'Morality and Technology,' p. 249

[20] Bruno Latour, *Pandora's Hope: Essays on the Reality of Science Studies* (Cambridge, MA: Harvard University Press, 1999): p. 179

[21] This is described as a rhythm between an organism and a milieu: Gilles Deleuze and Felix Guattari, *A Thousand Plateaus*, trans. Brian Massumi (Minneapolis: University of Minnesota Press, 1987): p. 504

[22] Latour, 'Morality and Technology,' p. 250

become something other, to become lost and eventually arrive at a displaced location, away from the intended goal.

> "If we fail to recognise how much the use of a technique, however simple, has displaced, translated, modified, or inflected the initial intention, it is simply because we have *changed the end in changing the means*, and because, through a slipping of the will, we have begun to wish something quite else from what we at first desired."[23]

This twisted path is described as a *detour*, a move off-course masked by the automation of technique. Technical ensembles are, in this respect, balanced as metastable states that contain margins of ambiguity often made imperceptible. Dislocations are produced in pursuit of a goal; if complications emerge, to the extent that a maze of new inventions displaces the original goal, technology is predisposed to close off this abyss by creating an invisible course of action. For Latour, this shifting ground between instability and automation is the site of a new politics, an investigative sociology based on tracing the associations between entities, reversing the fold and moving from 'matters of fact' to 'matters of concern.'[24] An important motivation is the ability to recognize the differences between things in the state of their convergence. In doing so, every object must be taken seriously to disclose their uncertain, variegated, historical, risky and networked realities. The task involves working over the same material as the technical, mapping the terrain scientifically in order to extract alterity.

MILKproject

> If the territory were uniform, nothing would get onto the map except its boundaries, which are the points at which it ceases to be uniform against some larger matrix. What gets onto the map, in fact, is *difference*.
>
> Gregory Bateson[25]

While Latour's philosophy finds considerable overlap with the ongoing aesthetic practices of locative media, the specific investigative turn to assemblages and 'matters of concern' can reveal unexpected actors or differences that contribute to the constitution of an ensemble. In an actual sense, locative media and Latour's 'sociology of associations' converge on similar terrain – providing an assembly for so many assemblages – yet this affinity has not been established in a rigorous manner. *MILKproject* by Esther Polak and Ieva Auzina represents one possible exception as a celebrated and innovative work often referred to in the context of Actor-Network-Theory.[26] Winner of the Golden Nica at Ars Electronica and originally developed via the Riga Center for New Media Culture, this piece documents the manufacture of cheese from Latvian farms to a marketplace in the Netherlands using photography, sound recording and GPS technology.[27] The result has been described as a kind of landscape art for the network age, a detailed tracing of the multiple relations folded into the production of a ordinary and commonplace foodstuff: "it suggests a powerful vision of how locative technologies might allow one to more fully understand how products are commodified and distributed through the actions of global trade, thereby making visible the networked society."[28] This demystification of capitalist production is an aspect consistently identified in the critical commentary on the project, resonating with the alienation felt by individuals in confrontation with the abstract complexities of globalisation, or what Manuel Castells has described as the 'space of flows.'[29] The mapping of space and time invokes the flat ontology of an assemblage, but only in terms of its

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[23] Latour, 'Morality and Technology,' p. 252

[24] Bruno Latour, 'Why Has Critique Run Out of Steam? From Matters of Fact to Matters of Concern,' *Critical Inquiry*, Vol. 30 (2), 2004: pp. 225 - 248

[25] Gregory Bateson, *Steps to an Ecology of Mind: Collected Essays on Anthropology, Psychiatry, Evolution and Epistemology* (New York: Ballantine Books, 1973): p. 457

[26] Mainly since the piece featured in the exhibition 'Making Things Public' at ZKM, co-curated by Latour, see *Making Things Public: Atmospheres of Democracy*, ed. Bruno Latour and Peter Weibel (London; Cambridge, MA: MIT Press, 2005)

[27] See the website, www.milkproject.org

[28] Marc Tuters and Kayzs Varnelis, 'Beyond Locative Media: Giving Shape to the Internet of Things,' *Leonardo*, Vol. 39, No. 4, August 2006: p. 362

[29] Manuel Castells, *The Rise of the Network Society* (Cambridge, MA: Blackwell, 1996), pp. 412 - 413

functionality, fixating on qualities fulfilled in passing from one state to the next: i.e. the labour expended in producing a commodity. The fabrication of this knowledge, however, is a fundamental aspect of establishing a territory; to take the advice of Latour, we should also look to increase type of actors at work.[30]

Following the artists involved, *MILKproject* discloses a highly reflexive take on the 'objective' role of surveillance devices. In a statement on the artwork, Esther Polak describes the initial anxiety she felt working with GPS tracking:

> "I almost felt like I was stealing something. Something totally private, the exact locations and times of their activities, their lives, had been exposed to me. It indisputably showed how they spent their day, even more clearly perhaps than they might ever have seen it themselves."[31]

Circumventing this feeling of appropriation meant shifting the interactions of actants within the piece, forcing new combinations of media capable of alternate enunciations by remaining partial or incomplete until being assembled. For instance, through a series of displacements, a notable degree of uncertainty is introduced by the minimal square-pixel rendition of data. Across a smooth green field, floating trajectories trace an abstraction that the participants must then decipher. The result is a *semiotic infusion* of situated knowledge as each individual relates their onscreen activities, occasionally digressing through local trivia or personal memories. This personal engagement is similar to what satellite theorist Lisa Parks calls 'technologised witnessing' – in essence, a method of countervision that attempts to destabilise the 'omniscient' view of surveillance imagery: "simply put, it involves a more literal interpretation of the term *remote sensing*, exploring how the senses, the sensed, and ways of making sense are related to orbital vision."[32] With *MILKproject*, the data clearly does not 'speak for itself' - the participant must enter into a specific relation with the image. This might be seen as being a process of co-emergence, as the reflexive detour that causes unexpected transactions to emerge. Unlike the mapping of dairy production, this terrain is structurally absent from the work, almost invisible by functional necessity. The improvised narration of participations is contrasted with the running figures documenting longitude, latitude and the synchronisation of time, a global grid that remains almost innocuous, easily forgotten, but structurally significant. In this space, a divergent reality unfolds, the intermingling of a geographic-terrestrial milieu in relation to the collective articulation of symbols, numbers and narrative.

The turn to materiality in locative media is predominantly governed by a desire to trace the formation and constitution of technological objects through unfolding relations. In *MILKproject*, dislocations internal to the cartographic map amplify a reduced field of visibility. Participants are able to construct a narration of partiality by making unforeseen detours or digressions to invoke local or embedded histories, through a change of scale, by shifting down. To a certain extant, the sociological method of Latour corresponds with this approach by addressing the operations of folding, by drawing open discursive and material components of an assemblage, and playing aspects of space, time and agency against one another. According to Deleuze, the act of critical thought occurs precisely in this interlocking association of materiality and discourse, visibility and language, seeing and speaking: "firing an arrow from the one towards the target of the other, creating a flash of light in the midst of words, or unleashing a cry in the midst of visible things."[33] The surfacing of unforeseen transformations inaugurates a challenge for the stable terrain of large-scale assemblages, understood as the regime of Imperial control. Moving through dislocations and readjustments, the development of locative media is a venture made powerful by risk or uncertainty, in which breaking apart an object sends a shimmer, flash or spark across greater diagrams of power.

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[30] Latour, *Reassembling the Social*, pp. 63 - 86

[31] Esther Polak, 'MILKproject: Sources of Inspiration,' available at <http://www.beelddiktee.nl/projects/GPS-projects/milk/Artist-statement-EP-eng.htm>

[32] Lisa Parks, *Cultures in Orbit: Satellites and the Televisual* (Durham and London: Duke University Press, 2005), p. 121

[33] Gilles Deleuze, *Foucault*, trans. Sean Hand, (Minneapolis, University of Minnesota Press, 1988), p. 96.

NETWORKS AND SOCIAL MOVEMENTS

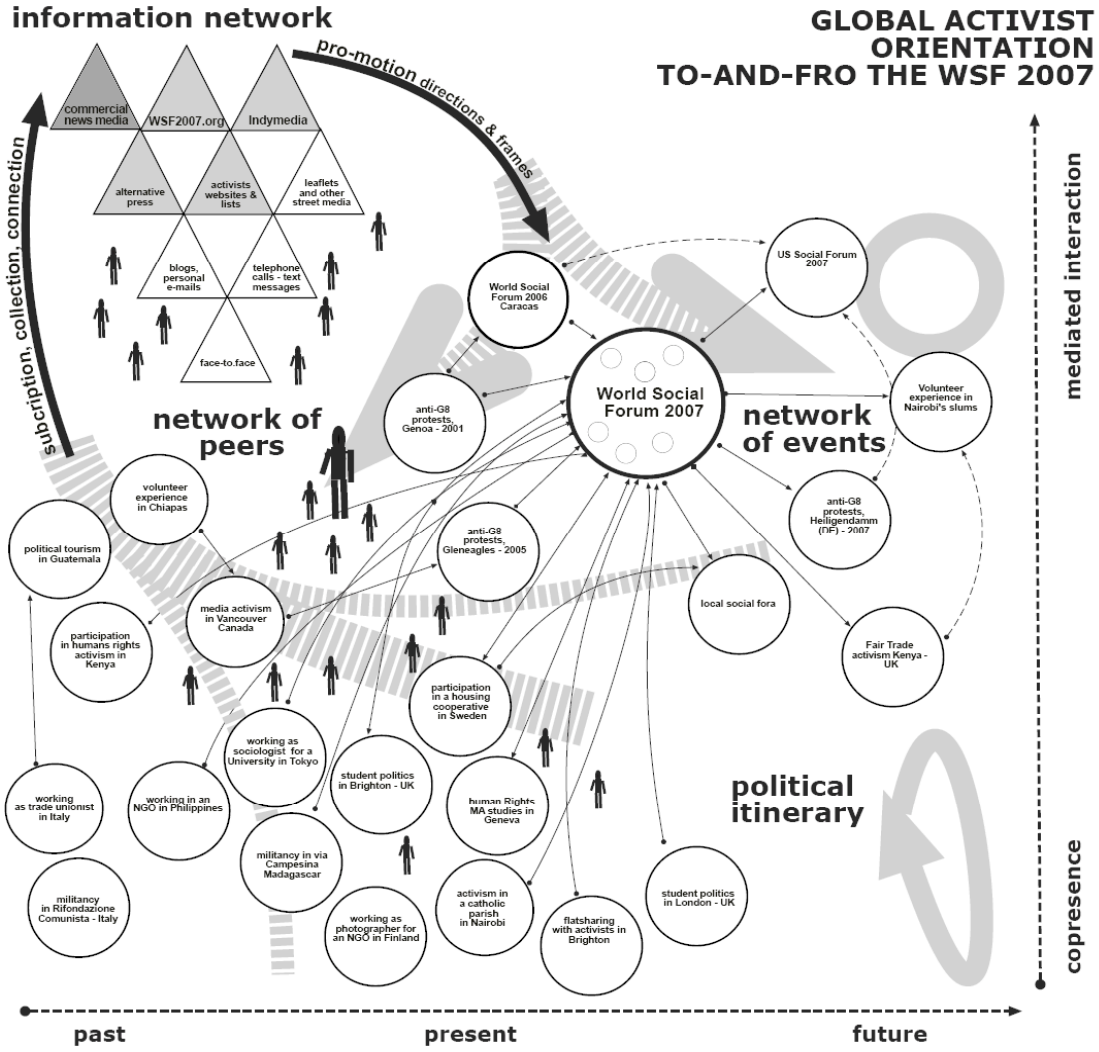
Faith in Exposure

David Garcia

The paper will question one of the foundational myths of modernity; the widely held belief that 'knowledge will set you free'. I will use selected visual material from the exhibition I curated entitled Faith in Exposure, as the starting point for a candid examination of how the concept of freedom has changed in the era of networks, arguing that freedom and democracy have actually been transformed since their fates became entangled with the Internet. These are not abstract arguments, there is a great deal at stake as in both in the history of media networks and a wider political history, the concept of freedom enjoys a unique moral status. From early modernity to this day those seeking respect, recognition equality and economic social justice seldom make these claims in isolation but usually as corollaries of liberty.

Navigating the World Social Forum 2007
activists orientation in a "networking bonanza"

Paolo Gerbaudo



The World Social Forum is an open meeting place for reflective thinking, democratic debate of ideas, formulation of proposals, free exchange of experiences and interlinking for effective action, by groups and movements of civil society that are opposed to neoliberalism and to domination of the world by capital and any form of imperialism, and are committed to building a planetary society directed towards fruitful relationships among Mankind and between it and the Earth. (World Social Forum's Charter of Principles, Article 1, Sao Paulo, April 2001)

For the World Social Forum to exist, people have to go the World Social Forum. The potentiality of a space set up by organisational strategies has to be enacted by the concrete partakings of social movements´ participants or users who actually travel to the World Social Forum, by their tactics of interaction with such space. Stuart Hall suggestively

asserted that "everytime we go to Sainsbury[1]'s we are a tiny bit of a Thatcherite subject" (Hall, 1988: 45). So what are we when we go to the World Social Forum? First, we are to different extents part of a global social movements network, a "network of networks" with loose ties and multiple links, activists experiencing "a new kind of militancy that seeks to combine the need for individual expression, with the development of collective identities" (Della Porta et al., 2006: 42-44). Second we are sort of "political tourists" visiting a monument to the ideology of horizontality and networks which has characterised academics and activists discourse about the rise of global civil society. Third, we are peers willing to make new contacts and strengthening existing ones, taking partakings to an event which represent a veritable "networking bonanza". Finally, we are the basic operative nodes of social networks who are not just connected to them, but who also develop an orientation towards different moments of encounter which pinpoint the activity of those networks to physical locales.

Founded in Porto Alegre in the January 2001 the World Social Forum was born as an attempt to create an occasion of encounter for global civil society to be counterposed to the World Economic Forum held in Davos in the same days. Its slogan "another world is possible" emphasised since the very begin the vision of a loose political platform based on an hostility towards neo-liberalism rather than on a coordinated series of alternative proposals to it. The WSF has progressively come to acquire the widely recognised, though contested, status of main informal institution of the emerging global civil society. An institution, however, which takes no decisions, which has no representatives and where organisers are supposed to act as facilitators of the different activities rather than as coordinators or leaders. Rather than an instituion where to deliberate, an instituion where to network.

1. "Becoming real": social movements networks between propinquity and mediated commmunication

The World Social Forum constitutes in fact a central node where different networks – information networks, social networks of individual and collective subjects and logistical networks of events and spaces – intersect. Moreover it represents a moment through which virtual networks become real networks (Diani, 1999), where network relations which are maintained through mediated and often through computer mediated communication are temporarily transferred to the realm of face-to-face communication and copresence. Social movements are indeed, as a matter of fact, organisations in which "communities of communication" (Apel, 1981) or "imagined communities" (Anderson, 1991) recurrently overlap with "communities of proximity". Activists are part of alternative media audiences connected to a shared set of information outlets (Atkinson, 2005), but also often co-present in occasions of physical interaction. They are both "contemporaries" and "consociates" to put it in the terms of Schutz's analysis of "time-space regions" (1967). However contemporary understandings of social movements´ networks often fail to take into account the irreducible role played by spaces and moments of encounter and the ways in which networks of communication dynamically and operationally connect them. Thus from the perspective of social movements´ networks the role played by public space and moments of encounter continues to be neglected or misunderstood.

This lack of interest for spaces and moments of physical interaction occurs in a context in which, according to different observers, public space has been progressively eroded and privatised, something which has been highlighted by Richard Sennett (1977) and Robert Putnam (2000). Famously Putnam has coined the expression "bowling alone" to describe the condition of suburban Americans, who are victims of a loss of social capital, of a network of contacts with groups and individuals which used to frame participation to the local community (2000). In the contemporary "social factory", as Italian autonomist define it, fragmentation, individualisation, loneliness and disorientation appear to be increasing objects of concern. This bitter diagnosis of the state of public space in the age of neoliberalism is paralleled in media and cultural studies by a compensatory fascination for

[1] Sainsbury is a supermarket chain in Britain targeting middle class consumers

the discursive spaces constituted by mediated interaction. Thus the breakthrough of new media in society has prompted a host of analysts to declare the obsolescence of public space. Mark Poster, for example has asserted that:

> Contemporary social relations seem to be devoided of a basic level of interactive practices which, in the past, was the matrix of democratising politics: *loci* such as the agoras, the New England town hall, the village church, the coffee house, the tavern, the public square, a convenient barn, a union hall, a park, a factory lunchroom, and even a street corner. Many of these places reimain but no longer serve as organising centers for political discussion and action. (1997: 217)

According to Poster "the age of the public sphere as face-to-face talk is clearly over: the question of democracy must henceforth take into account new forms of electronically mediated communication" (1997: 220).

This sort of reductionism which envisages in communication an annihilation or a conquest of space is something which has a successful tradition in media studies from McLuhan's "global village" (1983), to Joshua Meyrowitz's view of television as liquidation of social and spatial barriers (1985), Debord's analysis of the relation between spectacle and urbanism as technologies of separation (1994) and Baudrillard's claim that "the map precedes the territory" (Baudrillard and Poster, 1988). Coherently to this perspective, with the advent of the world wide web and increased possibilities of interaction, a vision of the Internet has been popularised which defines it as a "virtual space" something autonomous from physicality and locality. In this context the Internet is thought to assume vicarious functions, as it is highlighter by phenomena such as virtual communities, chats and virtual worlds like SecondLife, rather than being a facilitator of social activity in the "real world" as Craig Calhoun has proposed analysing the concept of "community without propinquity (1998).

Rheingold´s intervention about the role played by new communication technologies in articulating mobilisation and its definition of *Smart Mobs* (2003) has urged theorists to shift their focus towards the latter of the functions considered above: communication and specifically computer communication as a facilitator of social activity in the "real world". Introducing the concept of smart mobs Rheingold has celebrated the emergence of dynamical and ephemeral forms of collective action coordinated through mailing lists, telephone calls and text messages. The perspective advanced by Rheingold, however, suffers the limits of a technodetermist appraoch returns the image of a variety of techno-social geometries which appear to be almost completely abstracted from their specific geography but also from questions of identities, social positions and motivations. While the vision of the Internet as a space of its own kind has often gone together with the declaration of the obsolescence of "public space" and its substitution with a virtual public space, the position endorsed by Rheingold and his accolytes testify to an increasing interest for "the world out there". Nonetheless it reduces the understanding of space to the role of stage for the application of certain technologies of communication and related social practices rather than as a territory imbued with meanings, norms of use, frictions and resistances as it has been described in the tradition of British new cultural geography (e.g. Cresswell, 1996, Featherstone 2003, Keith and Pile, 1997, Routledge, 2001, 2003). Despite the role played by both new media and other traditional media forms (leafleting, fly-postering, radical press etc.) for supporting new patterns of collective action and for providing effective arenas for discussion we cannot prescind from an appreciation of the cultural and material specificities of the territories which are both constituted and navigated through the participation in social movements.

In order to regain an appreciation of the specificity and irreducibility of concrete geographies of action we need first of all to affirm how gatherings in public space still represent a *conditio sine qua non* for most if not all social movements. Also in the contemporary Global Justice Movement physical gatherings, preparatory meetings, presentations, workshops, teach-ins, benefit concerts and similar occasions of discussion, encounter and action considered by Polletta (1999, 2004), and the "free spaces"or "working utopias" they constitute and retain - such as the ones studied by Evans and Crossley (Evans, 1992, , Crossley, 1999) – continue to represent a decisive means for developing a sense of belonging but also to access to a series of informations, contacts, experiences which are inescapably place-bound. However this move does not entail to consider such encounters as immediate, but rather to delve into the analysis of a series of liminal practices linking

them through and to mediated communication. This especially necessary since the dimension of mediated communication and of physical participation are not clearcut, but rather deeply enmeshed, especially in the context of a society which is increasingly saturated by media (Moores, 2000, McCarthy, 2001) and also by social movements' street media (posters, flyers, banners etc.). Thus to make sense of the World Social Forum and other events and spaces which populate the activity of social movements we have to come to have to overcome of social movements networks as dynamic processes costantly swinging to-and-fro mediated interaction and physical participation. Often the comprehension of social movements appears static and independent from the constitutive features characteristic to these two different moments, which Schutz would define as different time-space regions (1987). Thus a comprehension of the nature of such events and their interlinkages requires us to accompany an understanding of information flows with an appreciation of activists physical flows, taking into account the mobile character of contemporary social subjects which has been extensivelz analysed by John Urry (2000, 2001, 2003a, 2003b). What is at stake here is the interaction between these two flows and the ways in which activists apart from developing a connection with communicative and social networks in social movements also developed a spatial orientation towards spaces and occasions of phzsical interaction.

Considering the interlacing between activists´ political mobility, information flows and the social networks which run in-between we can appreciate the peculiar character of contemporary participation to movements´ action and the ways in which it deals with particular geographical condition of neoliberalism. For different commentators, including Lefebvre, Jameson and Harvey, the most characteristic feature of contemporary space is its fragmentation a situation which according to Jameson brings with it a social and spatial confusion and the need for a politics of "cognitive mapping". In this situation, social movements' communication networks play a key role of coordination compensating for the decrease of spaces and moments of copresence. The mobilisation towards those occasions of grassroots political participation becomes strongly enmeshed with the use of communication technologies apart from the use of modern technologies of transportation which characterise the geography of contemporary global geography and in particular in the case of the WSF international flights.

Leafleting, fly-postering, and promotional communication forms publicising e events such as activists mailing lists or calendars in the radical press on Indymedia, blogs and activists website are some of the tools which are employed by contemporary social movements organisations to communicatively compensate for such fragmentation. Thus in social movements copresence and mediated communication cannot be disjoined. While in social movements communication costantly points at events, connecting abstract frames and narratives with concrete occasions of collective action, in turn physical encounters rely on the shared stock of knowledge developed through mediated interaction and on the logistical support provided by facilitative communication. What does this series of observations entail for a comprehension of the World Social Forum from a network perspective? How can we investigate the interaction between copresence and mediated communication in interlacing the different networks framing participation to the World Social Forum?

2. The individualised activist in the "networking bonanza".

One of the problems concerning our current understanding of social movements´ networks and the role played by occasions of physical encounter and their connection with mediated communication is due to the macro- and organisational perspective which dominates the analysis in the field. In this context communication and action are considered as different activities, for whose managment different actors are responsible and which need to be studied separately. In order to appreciate the entanglement between mediated communication and copresence instead we need to rescale our analysis to the level of the different "uses" which individual activists make of those counterpublics, costantly moving to-and-fro mediated communication and physical participation. A research agenda which focuses on this approach appears particularly urgent, once we consider the increasing process of individualisation of political participation and activism which has paralleled the emergence of "new social movements" and DIY culture (Mackay, 1998) with their

increasing stress on the level of consumption, identity and lifestyles and the the concurrent decrease of contentious political activity on the side of production which characterises traditional social movements and in particular trade unions (Melucci, 1996). By following this path we have to imagine the "space" of individual participation as something which is lived other than simply as a neutral container of social action as it is too often imagined.

This process of individualisation of activism has been paralleled by the evolution towards "experience movements" entailing a particular ethics of presence as Kevin McDonald has argued (2004: 588). In this context "significant forms of movement cannot be analysed in terms of collective identity, reflecting a social identity, but instead need to be understood as a form of experience best analysed not in terms of the relationship of the individual to the collective, but in terms of the relationship to the other, in which the self becomes another" (2004: 590).

Focusing on the level of individual activists' experience requires understanding the individual participant as a node which performatively weaves together networks and circuits of different kinds. First, activists are part of alternative media audiences which is connected to a shared set of information outlets (Atkinson, 2005). Second, they are connected to a social network of activists and peers. Third, they move to-and-fro different social movements' spaces and events which are logistically and communicatively linked with each other, composing a network which is bound together by activists "political mobility" within specific geographies of action. These three different forms of networks are navigated through activists' experience in social movements, as a consequence of the interlocking of a series of communicative, social and spatial practices.

Thus apart from possessing a connection to social and communicative networks, activists also develop an orientation towards different occasions of action, discussion and encounter. Activists orientation can be defined an understanding of and disposition towards the space of political participation which can understand as a subset of what Bourdieu calls habitus (1977: 71-74) and which Nick Crossley has developed in the notion of "radical habitus" for the analysis of participation to social movements (2003). This process of orientation guides the development of activists' agendas of participation which manifest levels of individual motivation and the degree of participation to collective identities and frames. The attachment to social movements' networks puts individual activists in contact with different forms of circulation about occasions of encounter, discussion and action. This promotional communication continously interpellates individual activists orientation, activating a series of action-frames which are to different extents endorsed by social movements' participants. By following this thread we can lay out the hypothesis that the World Social Forum represents a material and symbolic territory towards which many activists orientations are activated and which contributes in coordinating such orientations.

In the following pages I will draw on an empirical research conducted at the World Social Forum 2007 to discuss the scope and functioning of activists' orientations, towards and within the forum and across different symbolic and material networks. Drawing on 17 in-depth interviews and on participant observations conducted at the World Social Forum 2007, I will analyse how different participants orient themselves in the space of the forum positioning themselves towards different networks. Moreover I will analyse a series of spatial and communicative closures which partially separates different networks within the Forum itself and which divide the Forum from the outside. I will feed the results of this analysis into a critique of the concept of "open space", asserting that individual participants connection to different forms of networks organises and constrains their orientation within the forum giving shape to aggregations around affinity groups.

3. A place where to network

As we have already examined, apart from being the host of a series of seminars, conferences, and cultural events, a key feature of the World Social Forum consists in offering a dense communicative and spatial platform for networking. This was the main motivation which was mentioned by almost all of my informants. For them, this desire for physical networking also went dissatisfaction with the limits of mediated participation allowed by using activists websites or e-mailing people that are doing interesting stuff. They agreed on the fact that face-to-face encounter was necessary for building the trust necessary for any

future collaboration. Departing from this element we can assert that the Forum provide with a valuable occasion where different individuals and groups can get acquainted with each other, develop collaborations or alliances profiting from the density and emotionality of direct interaction. On the one hand, at the World Social Forum people can get to know each other by "bumping into each other" exchanging contacts and later maintaining their connection through mediated interaction by exchanging e-mails and telephone numbers. On the other hand participants who got to know each other in a mediated form, through e-mails or website can have a coffee together to "socialise", and develop trust, a process which appears to be intrinsically bound with face-to-face interaction.

Thus the process of networking within and around the World Social Forum is not something which exclusively depends on the environmental condition of such encounter but rather something which is framed by the interaction of different networks which support participation to it and by a common stock of knowledge which allows activists to understand themselves and which is at least in part developed through the consumption of alternative media messages. However an initial insight of the "culture of networking"manifesting itself in the World Social Forum can be offered by an analysis of the material infrastructure of encounter underlying the event in the 2007 edition.

Figure 1: the main venue of the World Social Forum 2007: the Kasarani Stadium

A stadium is not the first image that comes to mind when trying to figure an ideal place where to get to know each other and network. It is rather an architecture which goes with its own preferred gaze, the one of the cheering sport spectators. Nonetheless the World Social Forum 2007 took place in such an overdetermined space: the Kasarani Stadium in the northern outskirts of Nairobi, near some of the biggest slums of the Kenyan capital. Nonetheless the regimes of vision, communication and participation that underlied the space of the forum had only little to share with what we use to associate

with mass gatherings which usually take place in stadiums such as football matches, concerts, shows or celebrations.

In fact, in order to host the WSF, the organisers had the stadium undergo some customisations. The lower stairs of the stadium were covered with plastic tents and separated at the sides by white plastic walls (not very effective in screening the shouts coming from the other sections). This allowed to have two meeting spaces, a lower and an upper one, for each of the twenty-six sections of the stadium. Further meeting spaces were located in a series of tents and buildings all around the stadium. Those thin walls dividing one discussion from another signalled a series of contradictions between the structure of encounter of the World Social Forum and the discourses of inclusion, openness and cross-fertilisation declared in its Charter of Principles.

Activists and academics have often plauded the variety of actors that have been composing the Global Justice movement against neo-liberalism. The unlikely coalition of religious groups, trade unions, gay and feminist activists, socialists, environmentalists and anarchists that has appeared on the political scene since the protests of Seattle has often been held has the sign of the difference and tolerance characterising the rising Global Justice movement. Nonetheless this convergence has proved to be extremely problematic, something that has become particularly visible in the spatialities of protests and meeting events. David Featherstone has analysed how the encounter between different movements networks is the scene for the display for distinctive "maps of grievances" that are a terrain of contestation driven by differences among different participant groups (2003: 415-416). Likewise Paul Routledge has analysed the spatial ambiguities being articulated in the process of convergence in the demonstration of Prague were the protesting crowd splitted into three different marches (2003: 333).

As the description of the architecture of talk of the WSF demonstrates, these spatial contradictions are extremely relevant also for an understanding of the space of the World Social Forum. However for understanding how the space of the Forum was "socially lived" (Lefebvre, 1991) by its "users" we also need to consider how such space was communicated and how such communication was interpreted an negotiated by individual participants in connection with their social networks and giving way to different "contextual orientations".

4. Contextual orientation: trying to make sense of the WSF official programme

To get at grips with the internal "network of events" of the Forum, the more than eight hundreds seminars, assemblies, and cultural discussions - which took place throughout four days in the different spaces of the Forum participants had to rely on one main vehicle of practical information: the WSF official programme. This artefact had the form of a thick tabloid paper. It displayed a long spreadsheet of events with a terrible series of errors in the pagination process. At some point the programme would suddenly abandon the chronological order in the listing of events going backwards in the schedule. Moreover, the last third of the programme was just a repetition of the events described in the first third. Apart from these accidents, the timetable itself was very little descriptive: it just mentioned the title, the subtitle, and the organisers of the events without providing much insight into what the session was about, how it would have been organised and the position held by the organisers of that session. Finally events were not organised in sections, something which made extremely difficult to compare different conflicting sessions taking place at the same time and dealing with similar issues.

The editorial failure of the official programme testified for the level of disorganisation and scarce level of networking across different organisations which characterised this edition of the forums as all others. Interestingly, the preparation of official programmes has often proved a problem in the Social Forum. In the second edition the programme was only available on the second day with imaginable consequences for the attendance to the meetings: many events organised by small groups had no other audience than their organisers. In short: when a space of action is not communicated it can hardly be enacted. The stance of the social forum as a loose space of encounter rather than as organised institution makes the forum a recipient of different activities, a "bureaucratic facilitator". The result is a chaotic space of talk which is communicated in which the prescriptive horizontality of different social networks and the resiliance from organising them from

above is represented by adopting a policy of equal visibility expressed textually in an interminable listing of different events.

While the programme itself provided with few information and motivation for organising one´s attendance to the World Social Forum it required its users an intensive labor of interpretation. In this sense the official programmes of WSF could be seen as a flexible and neutral interface through which to interpellate one's position within a series of social, communicative and spatial networks. Moreover for many of my informants the interpretation of the official programme involved an ongoing negotiation of one´s own agenda of participation with her network of peers.

As Andrew a young Canadian activist explained:

> .... for the most part I had to try understand it and I do try to highlight all the sessions I would like to go to and sometimes there are many conflicting ones and I would spontaneously decide – I would like to go to this one instead. But I also talk to people and if someone is saying I am gonna go to this session, it's really good, then you know I'll go with that..you know…because….I have my own interest but then is also very important to go sessions with people I know that than I can talk to about it, about the session afterwards. You know the discussions you have afterwards…[Interview transcript – Andrew – 22/01/2007]

In particular for some people the groups of friends and comrades they were hanging around with at the forum represented a fundamental source of motivation for partaking to specific events. Most of these peers were people who my informants had already known before the forum. In other cases they were people they had got to know at the Forum, often having being facilitated in this by their existing network of contacts. In many cases these peers pertained, to different extents, to one's own specific area of interest such as immigrants rights, environmental action, feminism or socialist politics. A young British activist girl, for example, who was campaigning in her university against arm trade and the war in Iraq recalled how she had got to know many other anti-war activist coming from the US and Africa, and how she relied on them to gather further information about events in the anti-war thematic area.

Thus the process of individual orientation and the role played by proximity networks in it, appeared to involve connecting the events of the forum with prior experiences, with one's connection to specific communicative and social networks, with one's own priorities, interests, values and political beliefs. The practical information conveyed through one's own network of contacts at the forum appeared to reinforce the connection of one's own orientation to a specific issue-based network, and to a corresponding structure of affinity. The array of prior experiences and contacts thus operated as a filter for dealing with the unmanageable jumble of information which was conveyed through the official programme. The role played by the network of peers and by previous experiences in other social movements´ events and spaces in shaping an individual activists orientation unveils the fact that the contextual orientation developed within the Forum was connected to a global orientation, which helped participants make sense of the Forum as whole and of the Forum and as a node in a "network of events".

5. Global orientation: the WSF as a node in a global network of events

The World Social Forum represent an hotspot part of a common spatial imaginary shared by Global Justice activists. It is part of a "mythic cartography" of the global struggle against neo-liberalism, a mental territory which is landmarked, amongst other events, by the protests of Seattle, Genoa, and the world-wide demonstrations against the war in Iraq. These different events give a political salience to specific locations which is reiterated in activists conversations. "Have you been to Genoa then?" immediately acquires in Global Justice activists talk the meaning of "have you participated to the protests against the G8 in Genoa in the July 2001?". The fact of having been to Genoa, to Prague, to Seattle, to a Zapatista village in Chiapas, to a Sin Tierra camp in Brasil or to a volunteer project in Africa becomes - in an activists personal narrative - the evidence of one's commitment to the Global Justice movement. This spatial frame was intensively shared by may informants, regardless of their position in very different social networks.

From the individual activists point of view, the WSF is always part of a personal political itinerary which plots one's political identity onto the world map. First it is the point of arrival of individuals that take part in a certain network of communication may it

be for a loose political identification or rather for a tight affiliation to a certain organisation. Second it is the point of departure for further encounters and events which might be facilitated by new contacts gained in the forum. Social and cultural capitals acquired through a political itinerary do not only allow to position oneself within a certain social network (the Global Justice Movement) something which has a strong hinge on the complexive definition of their identity. It also allows to orient themselves towards those points in space where events have occurred or will occurr in the future. The role played by the access to a communication networks providing information about different spaces and events (cultural capital) and to a network of contacts which can provide information about further spaces and events or accompany the attendance to them (social capital) make apparent the connection between different occasions of physical participation which are bound together in a network by two forms of flow: the flow of activists body (political mobility) and the flow of information (promotion and propaganda).

Thus the World Social Forum represents both a point in-between, a "now- here" of political activity which is structured by one´s one previous experiences and which contributes in structuring future ones. First, the WSF is the arriving end of a series of political experiences: trips at the local, at the national and the international level which constellate a WSF participant's biography. Spanish courses in Chiapas, political trips in Guatemala, volunteer experiences in Africa, environmental activism in the countryside of England or in South Asia, participation to events in the local activist space are among some of such events which were mentioned by my informants. These events had contributed in constructing and consolidating their connection to a network of activists which ultimately accounted for the information they had gathered about the WSF and which help them to concretely attend it. Second, the WSF is the departing end for the participation to a new series of events. Many informants declared that a good deal of their motivation to come to the forum had to do with their need to know people and "network". Getting to know other people was seen as the first step for a series of mediated interactions after the forum which might have allowed for developing joint projects and also specifically for organising new physical events: presentations, volunteer projects, work collaborations etc. The mailing lists register that were circulating around different encounters of the forum are the symptom of this potentiality of the event as a site were to expand and consolidate or set up a new alternative networks of communication to sustain participation to further events. The WSF thus appears as a vantage point from which to plan one's partakings to new physical encounters profiting from the density and proximity of communication networks which is available in this physical event.

These two different processes concerning the role of the Social Forum as a point of arrival and of departure converge into the individual activists spatial understanding of the social forum as "something in-between", a step in his/her personal political path. This is the organising principle of a "global orientation" which allows activists to see the forum as a node in a network of past and future events they have partaken to or they planning to partake to. The participation to such network of events is deeply bound with the communicative connection to a series of communication outlets providing practical information about social movements' events. All my informants were internet users and almost all of them had used the official WSF website in order to gather the basic information in order to organise their trip and accomodation. Nonetheless this specific operation of information retrieval has to be put in a broader context of media consumption.

Many of the informants recalled to have heard about the social forum for the first time on newspapers articles or TV news. Nonetheless almost all of them had been "alerted" in advance about this edition by their network of peers, alternative information sources, or the organisation they pertained to (amongst others trade unions, environmental organisations, human rights organisations etc.). While for some participants this mediated connection was accompanied by the fact of going to the forum with or to meet up with members of their social network, for other participants it just combined with the plan of "trying to catch up" at the forum with some of the peers in their loose network of contacts. These different dispositions towards the space of the forum gives shape to two types of activists orientation which depend on the strenght of individual ties with specific organisations and their social networks: "affiliated orientation" and "independent orientation".

6. Independent and affiliated orientation

Apart from the accident with the WSF official programme, another problem which disrupted the development of the forum was the complete failure of the International Youth Camp. Since the first edition of the WSF the International Youth Camp had provided a space of socialisation and self-organisation where a series of spontaneous and activities were organised autonomously from the main forum and critically towards it. In the last edition in Porto Alegre in 2004, the International Youth Camp had gathered up to 20,000 people, mostly young people and not affiliated to any specific group. Something in-between a commune and a festival, the IYC had provided a propitious space where to get acquainted with a multitude of people coming from all over the world with very loose political affiliation, but with a set of common grievances and hopes. It was held by the forum as a result of its ideal of cross-fertilisation, direct democracy and openness.

Also in the case of the WSF 2007 an International Youth Camp had been set up in a space next to the Kasarani stadium with the capacity to host up to 2,000 people. However almost nobody knew about it and at the end the participants were no more than 50 people. In fact in the registration area there was no information at all about the camping. If asked about the IYC volunteers would distribute leaflets promoting a series of commercial campings positioned near to the stadium for the incredible price of 35$ a night! Thus in this edition "independents" were spread around the city of Nairobi and the nearby campings. Nonetheless their interaction with the forum and their orientation in the forum yet appeared to vary from "affiliated participants", who had come to the forum as members of a organisation or together with other members of their group.

The nature of "independent" and "affiliated" participants was something that participants were required to declare their registration at the WSF2007. These two different categories of participants were strongly correlated with two different forms of understanding o and disposition towards the space of the forum: two different types of orientation. Chico Withaker described the difference between these two figures as follows:

> some may come to the forum as activists of a specific movement. But the majority come driven by from their belief that is important to do so, to exchange experiences, to learn and to join others keeping the freedom that they had before and will continue to have during and after the participation to the events. (2003: 115)

In the case of this edition of the Social Forum the balance appeared to have been reversed in favour of affiliated participants. How did this category of people interact with the forum?

"Affiliated participants" tended to go to a handful of meetings they had come expressedly for, that their organisation/grop was organising or co-organising, or that pertained to their specific area of interest. Amongst my informants a philippino NGO-worker connected with the environmental organisation "Friends of the Earth", and an Italian trade unionist seemed to exemplify very well for this category. Both had taken part to the forum as members of their organisation and in this context they had gathered all the necessary information for both organising their trip to Nairobi and their attendance to the meetings held at Kasarani. Both were just going to attend 2 or 3 events.

"Independent participants", instead, usually declared to have come to the Forum mainly to see the Forum as whole and wanted to make the most out of it, exploring different issues. They would use the programme to look for events they were interested in because of prior experiences but they would also rely on contextual cues, being opened to a change in their programme if someone else would suggest a meeting they had not planned to go to or if they would otherwise bump into "something interesting". As Lucas, one of the "independents", describes

> Sometimes I'll go to events just to see..you know…what the latest debates are like in certain discourses..like..you know..I have an interest in how people conceive of these sort of spaces and..and…specifically about the global civil society..so I'll go to discussions on the emerging global civil society recognition-wise to try to know what the arguments are like and how they try to conceive of the space. But I also go to sessions that are about something much more tactical and useful and not so kind of theoretical and abstract. So I mean..I just went to a session on methodology that they use for trying to promote community response to HIV-AIDS and I ….it's

> very kind of basic outline of the methodology that they use..and there are some very useful aspects of it….[Interview transcript: Lucas, 23/01/2007]

We can sum up these two different dispositions and understandings of space as follows: 1) in the case of "affiliated participants" the tight network of contacts and the issue-based communicative frame underlying their interaction with the forum, shaped quite rigidly their interaction with the forum itself; 2) in the case of independents an higher flexibility in the interaction with the events of the Forum was connected with a more eclectic and unstable set of contacts and communicative interactions. While in the case of affiliated participants affinity was manifested as belonging to a specific groups and thus pre-disposition to interact with cognate groups and issues, in the case of independent participants the development of affinity coupled with a curiosity towards a broader set of issues and actors and for the Forum as a whole. Both forms of orientation articulate in different ways individual's participants belonging to certain structures of affinity and the communicative, social and spatial networks associated with them. While affinities aggregate a group participants, this aggregation goes together with a communicative and spatial closure towards other groups with different identities and action frames. The absence of plenaries and the scarcity of big assemblies but also of meetings crossing different thematic areas which characterised the WSF was accompanied by the absence of an overarching theme, of a "master frame" to organise different affinity-based groups frames[2]. In this context different structures of affinity converging in the forum tend to cohabit with each other rather than fully cooperate and cross-fertilise.

6. Independent and affiliated orientation

Donatella Della Porta has shown, in the contemporary global movement participants who are active members of organisations, and people who act outside of organisations are almost perfectly balanced (2006: 45). In the case of the World Social Forum the International Youth Camp had represented a place particularly important for independent participants, a place for socialisation and self-organisation where a series of spontaneous and activities were organised autonomously from the main forum and critically towards it. In the last edition in Porto Alegre in 2004, the International Youth Camp had gathered up to 20,000 people, mostly young people and not affiliated to any specific group. Something in-between a commune and a festival, the IYC had provided a propitious space where to get acquainted with a multitude of people coming from all over the world with very loose political affiliation, but with a set of common grievances and hopes. It was held by the forum as an evidence of its practice of cross-fertilisation, direct democracy and openness.

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[2] Here I refer to Robert D. Benford and David A. Snow's conception of collective action frames as "action-oriented sets of beliefs and meanings that inspire and legitimate the activities and campaigns of a social movement organisation" (2000: 614). In this context "master frames" are the ones which being more inclusive and flexible are able to coordinate different frames. Examples are the "justice frame" and the "rights" frame. (618-619)

In the case of this edition of the Social Forum the balance appeared to have been reversed in favour of affiliated participants. How did this category of people interact with the forum? These two different categories of participants were strongly correlated with two different forms of understanding of and disposition towards the space of the forum: two different types of orientation. Chico Withaker described the difference between these two figures as follows:

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7. Affinity and fragmentation

As it emerges from the analysis of the orientation of independent and affiliated participants, while structures affinities allow to aggregate group of participants, this process of aggregation goes together with a communicative and spatial closure towards other groups with different identities and action frames. The absence of plenaries and the scarcity of big assemblies but also of meetings moving across different thematic areas which characterised the WSF was accompanied by the absence of an overarching theme, of a "master frame" to organise different affinity-based groups frames[3]. In this context different structures of affinity converging in the forum tended to cohabit with each other rather than fully cooperate and cross-fertilise. As an Italian woman affiliated to Rifondazione Comunista reflected:

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> The risk here is that people don't talk with the others. People just go to their own stuff. Environmentalists with environmentalists, feminists with feminists, trade unionists with trade unionists, socialists with socialists. [Interview transcript: Roberta: 21 / 01 / 2007]

The fragmentation of the architecture of talk within the Forum combines with a series of closures along the trajectories leading people to the Forum and along the channels which fuel their orientation towards it. Unsurprisingly, nobody among my informants had arrived to the forum just out of curiosity. Most of them had already participated in other international protests or in other editions of the Forum. All of them were if not explicitly affiliated to a political or social organisation, at least part of a network of activists peers. All of them thus were connected to circuits of alternative information through which they had gathered about the World Social Forum. Apart from the Kenyan participants, all my informants seemed to pertain, to different extents, to quite a tight and exclusive "global elite" of some sort.

While inside the forum different social networks were split in different spaces of discussion the Forum also underlied a strong closure towards "the outside" perfectly exemplified by its interaction with the local communities and especially with those living in the slums nearby the Forum. This edition of the WSF had put particular emphasis on the problem of slums with the slogan "Another world is possible, even for slums dwellers". The inaugural march and the closing marathon brought thousands of delegates and participants of the event trough a series of slums and in touch with the harsh condition of their inhabitants. Nonetheless for slums dwellers was impossible to directly partake to the forum because of high entrance fees. In the last days of the event a polemics ensued around this issue after a series of protests conducted by the local activists group "World Parliament of the Poors". In the last day the organising committee was forced to scrap entrance fees and the Forum was eventually flooded by a crowd of common local people.

Apart from this blatant exclusion of local communities from the space of the Forum in the months before the event very little had been done by the organisation of the Forum for involving slum dwellers in the participation to the event. John Paul, a Kenyan community activist from Nairobi that was working as volunteer translator at the Forum testified to this situation:

> in my community nobody knew about the Forum. I only got to know about this from a friend of mine [an italian priest] who wrote me an e-mail about that and said they needed translators.. and told me that I should get involved. But the others where I live…no…nobody had told them about the Forum (Interview transcript: John Paul, 24 / 01 / 2007)

Thus the closure of the space of communication of the Forum (too high entrance fees for local inhabitants) went together with a closure in the communication of the space of the Forum (little or no effort in informing local communities about the event).

4. Conclusions: an "open space"?

The analysis which I have developed up to this point allows to address the discourse about "open space" which characterises a key features in the ideology of the World Social Forum. Chico Whitaker intervened in 2003 in the discussions about the future of the Social Forum asserting that: "at this stage of the evolution of the forum, the question of whether the Forum is a 'space' or a 'movement' has become a fundamental question and choice". In this context he explained what he meant by "space":

> A space has no leaders. It is only a place, basically a *horizontal space*, just like the earth surface, even if it has some ups and downs. It is like a square without an owner. If the square has an owner other than the collectivity, it fails to be a square, and becomes private territory. Squares are generally open spaces that can be visited by all those who find any kind of interest in using it. Their purpose is solely being a square, whatever service they render to its users. The longer they last as square the better it is for those who use them for what they offer for the realisation of their respective objectives. (Whitaker: 113)

The idea of "open space" has acquired an incredible fortune in social movements discourse and it has much to share with dominant visions of social networks as open structures able to infinitely create new links with elements outside them. More specifically the definition of common space has come to represent a series of occasions of networking, moments for the exchange of experiences and mutual learning rather than or apart from durable "free spaces" (social centers, cooperatives, parishes, public institutions etc.).

Thus the discourse about "open space" testifies to a view of networking as a process which has to encompass physical moments of "coming together". In fact, underlying the orientations of different types and groups of participants is a common motivation to get together, the belief that physical encounter is irreducible to mediated interaction, a sense of the contribution enabled by the individual participation to this "coming together". Such motivation goes, for many of my informants, hand in hand with a perception of isolation in one's own local situation, of separation from allies which sometimes look to be found more easily at the international level rather than in their own neighbourhood. Overcoming the spatial barriers imposed by distance allows different groups working on similar issues, and pertaining to homologous social positions, to develop and consolidate their affinity.

However this process of social aggregation which is allowed by overcoming spatial fragmentation through political mobility seems to go together with the construction of new forms of separation and closure. On the hand, once the participants to the forum have overcome the physical distance separating them a series of thematic barriers ensue, which is perfectly represented by the thin walls organising the "architecture of talk" in the the forum. On the other hand, activists flows to-and-fro different events are tightly entangled with circuits of alternative information which tend to intercept a limited set of social positions and a civil society environments such as the so-called movements havens (university, clubs, hospitals, schools, parishes and mosques and other locales that Gramsci would define as "trenches of civil society").

Therefore the idea of the World Social Forum as an "open space" is hardly tenable when examined through the lens of individual participation to the Forum is hardly tenable. Rather the WSF is the crossroads of a specific series of trajectories, flows of information and activists body connecting a limited set of social positions. It constitutes a point of encounter for different sets of networks which have limited degrees of openness and whose links and nodes are bordered by a series of symbolic and material barriers. The case of the slums inhabitants who were given no information about the arrival of the World Social Forum is one example of a variety of processes of separation enclosing spaces of encounter and the social, communicative and spatial networks arriving to and depating from them are at least partially self-enclosed. As it is asserted in the time-geography of Hagerstrand (1974), the presence of different individuals in a certain points goes together with the absence of other people, also because different localities have a limited "load capacity". The orientation to the participation in social movements' activity and in events such as the WSF is connected with a limited and specific set of social positions. The coordination of different orientations goes together with the exclusion of other individual orientations and connected social positions. This is due to the fact that also because of the partially place-bound character of communication in social movements, information is unevenly distributed among participants. And even if people might be interested in participating they will never get to know from their information network or be motivated to go by a network of activist peers. In conclusion, despite the claim to radical openness made by the organisers of the World Social Forum, the event is articulated by a series of both spatial and communicative closures which run along the material and symbolic paths which brought participants to the Forum. In front of the celebratory appraisal of the horizontality of social movements' networks underlying the World Social Forum I suggest we should also consider what lies outside of those networks, since it is at that level that the degree of openness of the World Social Forum and of similar occasions of encounter can be read.

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Ironic Citizenship, or Coping with Complicity in Spectacular Society

Megan Boler and Etienne Turpin

At this historical juncture what we are faced with is "coping with complicity in spectacular society." Networked cultures and practices of dissent represent a plurality of activities that demonstrate how we cope with and productively recuperate our complicity in spectacular society. Because we tend to recognize, experientially and thus intuitively, the immense planetary problems created through the structures of global capitalism and its attendant state institutions (not to mention the media itself), our reality is inevitably one of complicity. However, this complicity, when accompanied by an ironic approach to truth and politics, engenders a correlative critique of spectacular relations[1] and offers the potential for thinking new possible relations within the social and political registers.

Before outlining the theoretical insights we've gained from our two years of qualitative research, we offer a summary of this project "Rethinking Media, Democracy And Citizenship: New Media Practices And Online Digital Dissent After September 11" (funded by the Canadian Social Science and Humanities Research Council, 2005-08.

Over the last two years of studying the motivations of people engaged in "digital dissent," we have gained insight into the nature of social movements and political engagement as distributed through online networks. Our key research questions included: *How are digital media being used creatively to create communicative networks for political debate and social activism? What are users' and producers' motivations for engaging in online political engagement? Do online participants feel they have a public voice and/or political efficacy? To what extent is/was frustration with mainstream media a motivation online political activities and digital productions?* During Year One (2005-06), we analyzed four web-based networks of circulated dissent: (1) the 150 finalists of MoveOn's Bushin30Seconds campaign, 30-second movies that address a range of post 9/11 political concerns; (2)Web-logs that engage political discussion of media representation of U.S. foreign policy, particularly with respect to the invasion of Iraq ; (3) Online discussions (threads, blogs, comments posted to blogs) that address Jon Stewart and *The Daily Show*, with particular focus on Stewart's 2004 appearance on the CNN talk show *Crossfire*; (4) Independently-produced viral videos that address diverse political issues related to U.S. policy. We developed a validated survey using non-probabilistic convenience sampling, and administered the 70 question survey to 157 bloggers and viral video producers. During Year Two, we conducted 35 semi-structured interviews.

In brief, our findings include the following. Across the survey of 157, the primary motivations of online producers were the following:

- make a statement/express myself/be heard
- express anger and frustration with current events or political issues
- influence others (especially to influence election results)
- offer "corrective" function to counter mainstream media

In contrast to the notion of digital publics being only so much "chatter," across thirty five interviews with bloggers and online video producers, my research team and I discovered that web-based communities sparked by political commentary such as *The Daily Show* (TDS) with Jon Stewart are vibrant and translating into action. Our survey of 157 producers

[1] "The spectacle is not a collection of images, but a social relation among people, mediated by images." (Debord 1967, section 4)

evidences that more than half agree that, "My online political activity has caused me to take action in my local community (e.g., protest, boycott, etc.)." A majority, 60 percent, say that "My online participation in political forums has led me to join at least one political gathering or protest. Since becoming active online, 29% are "more active in 'offline' political activities," and 63% "spend about the same amount of time in 'offline' political activities."

The findings from the discourse analysis, our survey, and interviews of digital dissent producers, position us to (a) describe the motivations of online political producers and artists engaged in political multimedia work that seeks to counter dominant and corporate mainstream media (MSM); (b) disavow misconceptions that online citizenship practices detract from offline political organizing; (c) illuminate specifically the function of political satire and irony in an age of complicity with the spectacle. As modes of poesis, satire and parody engender a genre of political sensibility that arguably constitute significant counterpublics, and most certainly construct a de-naturalizing critique. From this large body of qualitative research, we have come to these following ten theses.

1. Everyone 'knows' the extraordinary lies of spectacle. We are certain only that we are being lied to.[2] Yet there is simultaneously (some would say contradictorily) a profound desire for truth-telling and accountability in terms of historico-political narratives. Along with the unaccounted-for political, the media is also held responsible for being the site where the struggle to define reality is being waged.[3] Like the end of Polygraph: "Americans are Dying for the Truth"[4] (a polemic which only follows after the genius use of the visually arresting image of scientific authority that proves the gut-level knowledge of lies), the demands for accountability arise in response to the flagrant and audacious disregard of politics. American political narratives increasingly produce *the* historical record for a massive proportion of our lived reality, and the historical knowledge of counter-power rarely finds a home in the public domain. However, despite the power maintained by White House, CentCom, and corporate media vectors, there is an increasing proliferation of plural narratives, and through the development of digital technologies we see the construction of a public archive that arguably did not exist previously in the public domain as a resource or historical account—e.g., allowing potential of remix, etc. to reveal the aberrations of spectacle as it shapes historical record.

   The desire expressed by publics for politicians and media to 'tell the truth' is held in paradoxical contradiction to the 'postmodern sensibility' (or, 'widely shared skepticism' towards authority as it attempts to exert control through spectacle) that all narratives are constructed, that all the world's a fiction.[5]

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[2] "What postmodern theory and practice together suggest is that everything is that always was "cultural" in this sense, that is, always mediated by representations. They suggest that notions of truth, reference, and the non-cultural real have not ceased to exist, as Baudrillard claims, but that they are no longer unproblematic issues, assumed to be self-evident and self-justifying. The postmodern, as I have been defining it, is not a degeneration into 'hyperreality' but a question of what reality can mean and how we can come to know it. It is not that representation now dominates or effaces the referent, but rather that it now self-consciously acknowledges its existence as representation—that is, as interpreting (indeed as creating) its referent, not as offering direct and immediate access to it." (Hutcheon 1989: 32)

[3] Wark's 1994 term "media vector" aptly describes how different directions and sources of information collide and relationally inform and shape one another. There is no "fact" or "object" to be located.

… one deals less with the object of a media event than with its trajectory. …In the Gulf war, the object caught both journalism and critical analysis off-guard because it was never where it was supposed to be. Modes of discourse which still want to 'grasp' the facts, or get 'to the bottom' of 'things' have a hard time with objects endowed with electric mobility. Hence the need for an analysis which does not 'look' at 'things', either factually or critically. (Wark 1994)

[4] One of the 150 *Bush in 30 Seconds* ads (MoveOn.org) we studied closely in our research project.

[5] "But no one really believes the spectacle." (Debord, Comments, 1988, 60)

The paradoxical desire for truth alongside awareness of truth's impossibility is a hallmark of this stage of spectacular complicity.[6]

2. The revealing of the emperor's nakedness is in part due to the overabundance of the spectacle itself[7] and the concomitant shift from citizen to user (a shift recognized by *Time Magazine*, by corporate plunder of user-generated content, and by network and communication theorists). To offer a new account of the old subject we must turn away from the binaries of producer/consumer and content/audience which fail to explain (among other things) interactivity, proliferation of production and expression, and the fundamental break in the possibilities of who generates spectacular production -- because of the complex synchronicity of interconnected planes of production.[8] User-generated content has radically changed theories of communication that relied on producer/consumer, so that we now can trace "a non-representational politics of relations." (Lovink and Rossiter)[9]
3. The diverse means of mutating the signifiers and meanings of the spectacle within the user-generated relations illustrates the ("non-democratic but not anti-democratic networks"[10]) non-representational politics of relations. The theory of spectacular society requires further nuance and update since Guy Debord's publication of *Comments on the Society of the Spectacle* in 1988, which developed his early analyses of spectacle initially published in 1967.[11] To build on this theory, we must attend to the issue of surveillance as telling its own secret and plotting its own demise into a monstrous aporia of nodes which can be collected but remain largely unmonitored.[12] (A brief example: The U.S. bureaucrats in charge of Al-Hurra cannot even staff the propaganda station with Arabic speaking functionaries and as a result accidentally broadcast a free half hour of an enemy terrorist leader. One American is fired, and another is hired to replace them who also does not speak Arabic.) The means of mutating and modulating political engagement that can create a distance from spectacle, can include blogs, political satire, digiart, agitprop, and tactical media. Bloggers tend to feel the most community; professional journalists express the greatest hope.[13] Meme and viral producers—

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[6] As Linda Hutcheon describes in similar terms, "Postmodernism aims to be accessible through its overt and self-conscious parodic, historical, and reflexive forms and thus to be an effective force in our culture. It's complicitous critique, then, situates the postmodern squarely within both economic capitalism and cultural humanism—two of the major dominants of much of the western world." (1989: 13)

[7] "The diffuse spectacle accompanies the abundance of commodities, the undisturbed development of modern capitalism….Irreconcilable claims crowd the stage of the affluent economy's unified spectacle; different star commodities simultaneously support contradictory projects for provisioning society…" (Debord section 65, 1967/1983). In this section, Debord describes not only the perpetually deferred unity which drives desire within the spectacular society where each fragment keeps luring us towards the dream of the whole, but speaks as well to the central effect of contradiction and irreconcilable claims that are inherent to spectacle. The centrality of irreconcilable claims and contradiction to the spectacle is captured by Colebrook's notion that, at its best, "the most complex forms of irony intensify contradiction; they do not clearly contradict the true or the logical in order to present themselves as in opposition to what is said; they do not allow for a truth or sense behind the speech act. The speech act produces a conflict of sense, expressing both sides of an assertion with equal force." (Colebrook, 166-67)

[8] The new phenomenon or scale of interactivity stands in contrast to Debord's 1967 description of spectacle: "But the spectacle is not identifiable with mere gazing, even combined with hearing. It is that which escapes the activity of men, that which escapes reconsideration and correction by their work. It is the opposite of dialogue." (section 18)

[9] Ten Theses on Non-Democratic Electronics: Organized Networks Updated, Geert Lovink and Ned Rossiter (2007)

[10] Ten Theses on Non-Democratic Electronics: Organized Networks Updated, Geert Lovink and Ned Rossiter (2007)

[11] "In societies where modern conditions of production prevail, all of life presents itself as an immense accumulation of spectacles. Everything that was directly lived has moved away into a representation (Debord 1967 section 1)

[12] "Surveillance spies on itself, and plots against itself." (Debord Comments 1988: 84)

[13] Our survey and interviews (Rethinking Media and Democracy, funded by the Social Science and Humanities Research Council 2005-08) revealed this difference between the experience of bloggers and meme/viral video producers. See Survey Results www.meganboler.net. The observations about journalists' sense of hope come from the in-depth interviews conducted with Amy Goodman (Pacifica-

artists and agitprop artists—tend to feel isolated. The lonely crowds[14] - those who are compelled to examine and critique the necessary contradictions of complicity within the spectacle - turn to satire as a practice which follows along with "the empty square." As Deleuze explains in a 1967 article "How do we recognize structuralism?", the empty square is the location of a *problematic*.[15] The empty square is the very possibility of forming a problem that intersects a variety of different planes or registers (government, the family, race, gender, class, etc.) — without falling victim to an apathetic passivity *nor* filling in the square of meaning with any final determinant (the desire to fix cause and thus determine course of action too simply). MSM fixates on either of these options, creating a discourse of truths and final solutions that makes any critique within their own discourse or on their own terms all but impossible.

4. The appeal of satire and irony[16] is in large part the "frank admission of complicity" with the spectacle. Beginning with its self-assignation of "fake news," (*The Daily Show* is known as "the most trusted name in fake news") Jon Stewart and Stephen Colbert of *The Colbert Report* (CR) insistently assert that they are merely comedy and not news, have no partisan agenda, and claim no outside of the spectacle of commodity.[17] They assert their complicity in the following ways: by referring to their corporate owners; by dismissing their own authoritative claims; by asserting either explicitly or through the spectacle of performance that are theatre and not news; by recognizing the immediate contradiction of the very fact that they exist and appear through broadcast at all ['I would not exist but for the corporation that feeds me']. Then, on this plane of contradiction, they unfold myriad layers of ironic and satirical nuance that begin to satisfy the craving for what we might call, with

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Democracy Now!), Hassan Ibrahim (Al Jazeera), and Deepa Fernandez (WBAI-Pacifica) for the forthcoming edited book *Media and Democracy: Tactics in Hard Times* (MIT Press 2008, ed. Megan Boler).

[14] "…all the goods selected by the spectacular system are also its weapons for a constant reinforcement of the conditions of isolation of 'lonely crowds.'" (Debord 1967, section 28)

[15] Deleuze first evokes a concept of *seriality* as component of structuralism in his essay "How do we recognize structuralism?" where he advocates a serialization of structure as a means of overcoming the double-bind of positivism and determinism within the structuralist project. Because the structure implies several series, Deleuze shows through his concept of serialization that the determination of the primary series (which is the primary signification and determines the signifiers of the other series) relies on the empty square (or the object = x). Therefore, because the object = x cannot be shown to belong solely to one series – if it could, it would not operate – the determination of the primary series can never be conclusive. In this sense, we can see how the object = x opens the series to further serialization, opening a way for the 'structuralist hero' to think through structures without being determined by their logic of construction. In fact, it could be argued that it is precisely the object = x that emerges as the permanent transfer engendered by the nomad line, or the line of flight, in *A Thousand Plateaus*.

[16] To define these terms in brief, satire is commonly understood as literary, dramatic, or visual art intended to critique vice, folly, or abuse. While frequently comedic and using humor and wit, its primary intent—particularly and in its best instances I would argue in the case of political satire—is to call attention to the wrongs committed by those in power. Satire uses various devices, ranging from irony to buffoonery, derision and grotesquery. Many argue that satire is set apart from other comedy by its clear moral outrage—the attempt to point out vice or abuse through the stated or implied measure of what is morally right or a value that should be strived for by those who are targeted in the satirist's critique. Parody at its simplest is a stylistic imitation that serves to call attention to and ridicule the original style. In skillful parody, the original style is so aptly-imitated and pushed to its extreme, that the viewer sees not merely a silly imitation but a scathing critique of the satirist's target (Stephen Colbert's comic adoption of FOX News personality Bill O'Reilly's character is a clear example of an extraordinarily skilful parody). Irony is one style used within satire, generally understood as the use of language to say one thing and mean another. Irony is frequently the aspect of satire in which one finds discussions about the necessity of shared cultural meanings in order to "get" the joke or play on words and meaning.

We are interested not only in this basic sense of irony, but cases that exemplify where "the most complex forms of irony intensify contradiction; they do not clearly contradict the true or the logical in order to present themselves as in opposition to what is said; they do not allow for a truth or sense behind the speech act. The speech act produces a conflict of sense, expressing both sides of an assertion with equal force." (Colebrook 166-67)

[17] TDS and CR stand in distinct contrast to Hutcheon's description of television as primarily "commodified complicity" and in lacking the critique that characterizes her notion of postmodern paradox: "Most television, in its unproblematized reliance on realist narrative and transparent representational conventions, is pure commodified complicity, without the critique needed to define the postmodern paradox." (Hutcheon 1989:10)

a nod to Foucault, an "effective history of the recently past."[18] Perhaps the historical movement of Marxist analysis to foreground the contradictions of socio-economic life has found its contemporary counterpart in the plurality of attempts, from viral videos and digital art to TDS and CR, to demonstrate the multiplicity of interactions and power structures that backform the complicity we all experience.

5. The post-2001media landscape is but the confirmation of the necessity of a "contradictory" life -- the spectacle of terrorism[19] and the abuses of the exportation of democracy represent the modulation of foundational ideologies from previous epochs as they shift into postmodern landscape of oligarchies and corporations. Within this landscape, the premise of the news "telling the truth" has lost all credibility as we recognize the impossibility of non-contradiction. This is well-exemplified in an exchange between JS and Bill Moyers in 2003*: " I do not know whether you are practicing an old form of parody and satire…or a new form of journalism. Stewart replies, "Well then that either speaks to the sad state of comedy or the sad state of news. I can't figure out which one. I think, honestly, we're practicing a new form of desperation…."July 2003(Bill Moyers Interview of Jon Stewart, on Public Broadcasting Service)* This new form of desperation is precisely the creation of a gap, or affective moment of satirical performativity that allows a space for <u>thinking the empty square</u>, or of unfolding the problematic of politics on new terms (not just 'Leave Iraq or Stay', but how do we actually conceptualize the subtleties of this war and on what terms should we engage with its illegitimacy --- NOT on the terms of the MSM!) In this sense, the "contradictory" elements foregrounded by post-modern satirical practices cannot be resolved through any dialectical synthesis, but instead reveal the complexity of the overlapping networks of power and our participation within them.
6. MSM not only upholds a naïve-seeming correspondence notion of truth [i.e., such correspondence theory is increasingly eyed with skepticism--despite the usefulness of strategic essentialism and measures such as "those who watch TDS and CR are the 'best informed' says PEW study"[20]], but any such correspondence theory (through its discourse of fairness and facts) assumes an overly simplistic morality of right and wrong that insults postmodern sensibilities of complexity and contradiction which the spectacle itself cannot help but make obvious. In short, attempts to *hide* the spectacle do not *sell*, and many audiences are so savvy that in PR and advertising, truth and sincerity are 'in': e.g., on Youtube ads are only praised when they are not posted by the advertisers as ads selling a product; rather, their critical acclaim occurs when they are posted by users as contributions to the recognized media spectacle.[21] This sense of insult when complicity is *unrecognized* is losing readers/viewers by the droves, creating the "problem" of media literacy as

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[18] Although the distinctions between a Marxist analysis of contradiction and a post-modern sensibility regarding complexity should not be collapsed as a simple historical difference, there is nonetheless a clear continuity along this line of critical engagement.

[19] "The story of terrorism is written by the state and it is therefore highly instructive. The spectators must certainly never know everything about terrorism, but they must always know enough to convince them that, compared with terrorism, everything must be acceptable, or in any case more rational and democratic."

(Debord, Comments, 1988: 24)

[20] Viewers of Jon Stewart's *The Daily Show* and Stephen Colbert's *The Colbert Report* rank number 1 in the "best informed American public." However, note as well a (methodologicaly-questionable) study which received extensive press attention in spring 2006 on "the daily show effect," evidencing that a sample of college students became "more cynical" from viewing *The Daily Show.*

"The six news sources cited most often by people who knew the most about current events were: "The Daily Show" and "The Colbert Report" (counted as one), tied with Web sites of major newspapers; next came "News Hour With Jim Lehrer"; then "The O'Reilly Factor," which was tied with National Public Radio; and Rush Limbaugh's radio program. (April 16, 2007, Best-Informed Also View Fake News, Study Says, by Katharine Q. Seelye New York Times, April 16 2007)[20]

In counterpoint, see also the (methodologically questionable) academic study that claimed the "daily show effect"—that those who watch TDS will be cynical in voting patterns: "***The Daily Show* Effect Candidate Evaluations,Efficacy, and American Youth"**Journal of American Politics Research.

[21] May 2007 National Film Board "Meet the Insiders" panel discussion on advertising, Toronto.

conceived and the near impossibility of a pedagogy of media to suit current sensibilities. The irony and satire of fake news suit this particular user best: we would rather follow the empty square than fill it in simplistically/ deterministically; but we risk losing faith, hope, optimism and falling into the second accident of structuralism—apathy. Satire such as TDS and CR is the salvation for many in North American and increasingly other English-speaking audiences of users,[22] because at its best it allows the ambiguity of meaning that resonates with our lived experience of hyper-contradiction. We disagree with the current order, with the current regime, with the current administration, but the complexities of our reality prevent us from articulating--as FOX News might demand of us--a perfectly honed and sound-byte ready "answer" to these problems.

7. The layers of irony reflect at their best the complexity of an analysis that is able to breakdown the chains of signifiers that create a play and pleasure in reflecting in spite the horrors that (a) require the reflection and enable its meaning and (b) indicate that things could get worse. Returning to Deleuze's concept of the empty square, we can see the importance of maintaining both of these positions simultaneously – that is, provoking the desire to engage with a problematic, and, making this provocation compelling in the sense that it retains a sense of movement (i.e., things could, and very often are, getting worse).
8. We experience the profound sincerity of the court jester and satirist as most trustworthy when—with values consistent with their court jester, satiric nightly critiques of the spectacle of politicians and media—they express calls for democracy, justice, fairness of representation, pubic responsibility of media and politicians within the ironic stage of the real. This occurs when the court jester steps from his usual stage into another 'real' staged context—e.g., Jude Finesterra of the Yes Men on BBC; Jon Stewart on *Crossfire*; or Colbert at the White House Press Correspondent's Dinner.[23] When these demands for accountability are made in public forms that reveal the emperor's nakedness with *tactics that get play*, the de-naturalizing critique gains teeth and its bite becomes effective—revealing the complicities of the spectacle in public to the public. Too much sincerity depresses and won't sell; but strategic sincerity builds on trust. To the extent that sincerity is used[24] it says, "it could get worse." This is perhaps the closest satire comes to a call to action: playing on the sincerity that it demonstrates through the already-admission of complicity and the platform of an impossible truth ("fake news"), contemporary political satire at its best forms an "effective history."
9. The effective incitement to reconfigure action or social relations can be measured in part through counterpublics and their formation. I interviewed an established blogger who began streaming Daily Show clips when his Macintosh wouldn't interface with the Comedy Central site, and decided it would be a service to other Mac users to post clips in Quicktime format. As a result, he unexpectedly began to

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[22] We have highlighted TDS and CR because of their public and popularized spectacular place in the current political climate within North America. These are but two examples of the kinds of satire and irony used to shift relations to spectacle. Other examples are included in our research (see www.meganboler.net) and we would also mention On the Map, Avi Lewis' new show on CBC and the use of remix, ironic, sarcasm; Saddam-Rumsfeld viral video (get cite); National Security Archive of George Washington University, as public archive for the development of effective histories of American policy http://www.gwu.edu/~nsarchiv/nsa/the_archive.html

[23] In 2004, the top-cited blogosphere media story in 2004 (www.BlogPulse, Year in Review) was the appearance of Jon Stewart on CNN's *Crossfire* talk show. 600,000 people watched the television broadcast and millions watched the online streaming of Jon Stewart skewering the talk show hosts for debasing journalism in the name of political debate. In this episode, Stewart appeals for "civilized discourse," a "responsibility to public discourse," and to "stop hurting America" with partisan hackery and theatre that masquerades as news on CNN. In 2006, Stephen Colbert was an invited keynote speaker/performer at the Washington D.C. annual White House Press Correspondent's Dinner. Colbert's masterful parodic performance delivered a scathing critique of George W. Bush and his administration—with Bush himself sitting three feet away from Colbert, and in front of hundreds of White House and other political figures. There was an extensive mainstream media blackout covering the event, but it has become a second watershed moment in public media and political critique.

[24] This sincerity is akin to Rorty's problematic assumption of the private ironist who publicly asserts a strategically essential reference to democracy, freedom, justice as a pragmatic stance (1989).

get voluminous traffic from readers around the globe. I asked him if he thought that his site resulted in any action. It was a surprise to me to hear him report that in fact, as he learns from the ongoing conversations and comments posted on his website, that because of viewing and discussing *The Daily Show* many member of this progressive community have been led to activism. Another blogger was inspired to go join Cindy Sheehan's protest in Crawford because of the conversations engaged through his Daily Show postings. Other examples of these effective reframings of spectacle include Jon Stewart on Crossfire, and Stephen Colbert and the White House Press Correspondent's Dinner as watershed moments of scathing public critique of media and the political administration; the PEW study of TDS/CR viewers as the "most informed" Americans. From these examples, only a few among the many we have found in our research, it is clear that the satirical tactic of problem-formation cannot be reduced to a laughable political critique; instead, it can engender a new commitment to engaging in practices that contest relations within spectacular society.

10. From such effects we can move at least to the hope provided by effective history of the recently present: longer sound bytes; creation of a pause and a gap; context; engendering of reflection[25] as a practice that occurs as part of process of both watching and/or producing news/facts; creating a counterpublic or viral rhizomatic rupture in which the spectacle is revealed in new light through watershed moments of public and counterhegemonic critique. Through the offering of effective history, the spectacle's exhausting evacuation of history is channeled into mutated remix that creates conditions for different social relations within the contradictions of the spectacle.

Foucault argues for the importance of effective history, stating that this method of historical knowledge production "Deprives the self of the reassuring stability of life and nature, and it will not permit itself to be transported by a voiceless obstinacy toward a millennial ending. It will uproot its traditional foundations and relentlessly disrupt its pretended continuity. This is because knowledge is not made for understanding; it is made for cutting."[26] If knowledge is made for cutting, we can see the development of political satire as a potent breach, break, or fracture in our spectacular mediascape that occasions a shift in our concepts of politics and truth that lingers after the punchline, beckoning us to reconsider the complexities that populate our daily lives and experience. Without giving up hope on solutions, we are encouraged, with often biting irony, to follow the empty square and complicate the discourses of the MSM.

Political satire cannot be dismissed simply as a medium complicit with the monstrous media power that sustains it because it is precisely this often-stated complicity with power that makes the truth of the fake news so effective. Without any pretense to easy solutions, and without suggesting that turning away from our political realities will make them go away, an ironic citizenship can help engender new effective histories that allow us to better navigate the complexities of our own complicity within spectacular society. In sum, perhaps the satirical cut of "truthiness"[27] is now a necessary tool for critique, since, as

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[25] Hutcheon's definition suits this reflexive function of satire and irony as a window that opens onto the effective history of the recently present: "This is the confrontation that I shall be calling postmodernist: where documentary historical actuality meets formalist self reflexivity and parody. At this conjuncture, a study of representation becomes, not a study of mimetic mirroring or subjective projecting, but an exploration of the way in which narratives and images structure how we see ourselves and how we construct our notions of self, in the present and the past." (1987: 7)

[26] Michel Foucault, *Language, Counter-memory, Practice*, translated by Donald F. Bouchard and Sherry Simon (Ithaca, New York: Cornell University Press), 1980, p.154, quoted in Stephen Turpin, "Interpellative Tautologies: A Critique of Hegel's Philosophy at the University of Berlin," MA Thesis, Department of Philosophy, Ottawa: University of Ottawa, 2005.

[27] "Truthiness" was popularized through Stephen Colbert's invocation in 2005, making it one of the top words of the year in 2006. "Truthiness is meant to "describe things that a person claims to know intuitively, instinctively, or 'from the gut' without regard to evidence, logic, intellectual examination, or actual facts." (Wikipedia)

Foucault says, "Nothing is more inconsistent than a political regime which is indifferent to the truth; but nothing is more dangerous than a political system which pretends to prescribe the truth."[28]

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[28] Michel Foucault, *Dits et Écrits II – 1976-1988* (Paris: Éditions Gallimard, 2001), p. 1497.

Bodies and Swarms: Doing Politics with Emergent Biology

John Duda

1 Situating biological politics

There is nothing new in trying to respond to political questions with biological answers: from Aristotle to Social Darwinism and on to Sociobiology, examples of attempts to naturalize domination and inequality can be found in every era, including our own. Neither can we straightforwardly equate the naturalization of the political with the impulse of reaction — perhaps just as often has the thinking of liberation been carried out through other references to biology. For just one example, one can think of Kropotkin's rejoinder to Social Darwinism — in which the prevalence of mutual aid in human life is shown to follow not from the author's anarchist convictions, but from his inductive experiences as a Siberian naturalist.[1] What I wish to do in this paper is articulate and critique the way in which what I will term 'emergent biology' — a body of thought which takes as its point of departure theories of catastrophic and chaotic morphogenesis and the dynamics of swarms and networks — has been mobilized by recent left thinkers, in particular the biologist Brian Goodwin and the Marxist theorists Michael Hardt and Antonio Negri. The basic thesis of my argument will be that behind the very different political programs advanced by Goodwin and Hardt/Negri, it is possible to discern a common thread in the ways in which the two bodies of thought mobilize the relation between politics and biology.

2 Why I am not a Latourian

As a preliminary methodological step in this analysis, I will attempt a more general (and somewhat provisional) diagnosis of the relation between science and politics. Political judgment, inasmuch as it allows one to orient one's actions with certainty in a contingent (and consequently potentially unintelligible) historical milieu, can make productive use of the sciences by trading on their objectivity. Let us say that if the political remains an intrinsically open question, then a science of politics, or a scientific answer to a political question is in some respects a short-circuit, an easy out. Whatever practical consequences such a scientific answer might have, it will *also* always help to suture closed the opening of the political question. To take one particularly salient example, "scientific Marxism"(at its most vulgar),[2] by positing the inevitable collapse of capitalist exchange and the inexorable triumph of the proletariat, serves to ground political action against an objective future history, thus enabling or engendering certain claims of political authority which foreclose the domain of intelligible political questions.

Two caveats on this diagnosis are necessary. First, if political authority rests upon an operation which sutures shut the open question posed by the political proper, the displacement from politics to science is by no means the only way this suture is effected, nor by any stretch of the imagination the most important way. Political power, after all, comes

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[1] p.13 Kropotkin, Peter. *Mutual Aid*. London: Freedom Press, 1998.

On the other hand, wherever I saw animal life in abundance, as, for instance, on the lakes where scores of species and millions of individuals came together to rear their progeny, in the colonies of rodents, in the migrations of birds which took place at that time on a truly American scale along the Usuri, and especially in a migration of fallow-deer which I witnessed on the Amur, and during which scores of thousands of these intelligent animals came together from an immense territory, flying before the coming deep snow, in order to cross the Amur where it is narrowest – in all these scenes of animal life which passed before my eyes, I saw Mutual Aid and Mutual Support carried on to an extent which made me suspect in it a feature of the greatest importance for the maintenance of life, the preservation of each species, and its further evolution.

[2] The question of science in Marx's own writings is more difficult than many opponents (and proponents) might have us believe. While there certainly are claims by Marx to have isolated through the science of history economic determinants capable of engendering predictions about the future course (or shipwreck) of capitalist development (for example the discussion in *Capital* of the "falling rate of profit"), the prescriptive measures advocated as elements of a revolutionary strategy often take the form of a much less empirical understanding of the relation of revolutionary theory to history (for example in the confrontation with "Utopian socialism" in the *Manifesto of the Communist Party*).

out of the barrels of guns as well as test tubes. Secondly and, for the purposes of this paper, more importantly, not all sciences of politics are equivalent — while the general contours of the claim they make to an achieved objectivity of politics may seem similar, the actual mechanisms of displacement and substitution will vary both with what is being displaced (whose politics?) and onto what (which science — economics or physics or biology?).

It is with respect to these two caveats that this diagnosis can be differentiated from the very similar one made by Bruno Latour in his *We Have Never Been Modern*[3] and more systematically in *Politics of Nature*[4] . First, for Latour, strategies of suture tend to enter into his argument only inasmuch as they operate with reference to the nature-society couple. This couple is figured as an opposition in the systems he wants to critique (for short-circuiting one or the other domain), and as the site of the production of hybrids in his own "parliamentary" vision. In other words, Latour sees the operant of the suturing of the political as Nature *tout court* or Society *tout court*, Nature *as opposed to Society* and Society *as opposed to Nature*. What I wish to characterize as political suture here would be something orthogonal to Latour's concerns, in that I both want to downplay the privilege or centrality of the nature/society opposition to this operation, and at the same time allow for partial operations of suture where Latour might only want to see the negotiation of hybrids.

Expanding the first distinction, I would maintain that the scientific suture remains just one possible suture among many: religious beliefs, nationalism, racism, faith in democracy, hatred of capitalism, Utopian projection, groundless solidarity, etc., all of which may have very little to do with the specific problematics of the epistemology of science which ultimately inform Latour's investigation. Expanding the second, it seems to me that we do violence to the potential usefulness of the concept of political suture if we reserve it for operations which, like vulgar Marxism's concept of historical materialism or Hobbes's Leviathan (in Latour's reading), seek to effect a total suture of the entire political domain. Consider Social Darwinism: what was at stake was the naturalization of some very specific relations of race and class, not the theorization of the political as such. What we need to be attuned to are not just the broad contours of abstract relations, but the specific and concrete mechanisms by which political questions are answered. It is surprising that Latour, who in other works traced with such acuity the concrete play of networks which decide scientific questions, demands that we recognize the quasi-objects around us as hybrid sites of negotiation and discussion without really engaging with the network of partial conclusions resulting from these negotiations. One sometimes has the feeling reading Latour's theoretical works that we are in some sense skating on the ice of a project which is always just around the corner, always about to commence, but which never really gets off the ground. In considering how the political is sutured, it is not enough to examine just the topology of the situation (Open? Closed? Opening? Closing?) or its major determining categories (Science? Nature? Humans? Things?), but to pay attention to the stitches themselves, the material practices and ideological structures by which a particular political question is answered.[5]

A second and more important way in which my concerns diverge from Latour's is that I wish to abandon the normative judgments which tend to flow from his eschatological and Manichean staging of the conflicts between Nature and Society, or between moderns and premoderns or postmoderns (the latter especially wind up seeming like strawmen standing in for themselves for the sake of Latour's argument). For Latour, to insist on the objectivity of Science or the sovereignty of the subjective is to be complicit in a disastrous misunderstanding, which is to be undone or avoided by remaining within and open to the dialogical process of hybridization. But as long as Science and the Sovereign remain abstract and opposed totalities, locked in a struggle of which one must choose a side (even if the side chosen is neither), it remains impossible to chart the actual relative rates of

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[3] Latour, Bruno. *We Have Never Been Modern*. Harvard UP, 1993.

[4] Latour, Bruno. *Politics of Nature: How to Bring the Sciences into Democracy*. Harvard UP, 2004.

[5] As just one example of what I mean, Michel Serres does an excellent job of analyzing the techniques borrowed from or modeled on *religious* practices that August Comte uses to articulate his positive politics in his essay "Paris 1800", in *A History of Scientific Thought: Elements of a History of Science*. Oxford: Blackwell, 1995.

hybridization by which partial closures to political questions are effected and contested.[6] If political objectivity is made possible by the closure of the political, then some such closure might be in some sense the condition of the political question in the first place. Rather than an ungrounded abyss of Sovereignty or the blank wall of a mute and authoritative Nature, we might want to envision the dynamic between political subjects and objects as an iterative process, in which the answers to some questions provide the ground to ask others. Without some reference to the concrete, no matter how provisional, a political project might remain without traction on the ice of open-ended hybridization and negotiation. At the same time, overconcretizing a political situation, rendering it *entirely* in objective terms, risks foreclosing the question that is proper to it.

By considering how partial syntheses of political objectivity are achieved without immediately viewing any such closures as suspect, there is a way to get at more specific political concerns which Latour's analysis would tend to obviate: we can shift the focus from *whether* or not a political space of negotiation is open or closed to *how* this space is open or closed. For example, Latour, at the end of *We Have Never Been Modern* writes:

> The mediators have the whole space to themselves. The Enlightenment has a dwelling-place at last. Natures are present, but with their representatives, scientists who speak in their name. Societies are present, but with the objects that have been serving as their ballast from time immemorial. Let one of the representatives talk, for instance, about the ozone hole, another represent the Monsanto chemical industry, a third the workers of the same chemical industry, another the voters of New Hampshire, a fifth the meteorology of the polar regions; let still another speak in the name of the State; what does it matter, so long as they are all talking about the same thing, a quasi-object they have all created, the object-network-discourse-nature-society whose new properties astound us all and whose network extends from my refrigerator to the Antarctic by way of chemistry, law, the State, the economy, and satellites.[7]

Latour is somewhat cavalier about the proportionality of representation in his Parliament: there are all kinds of dialogues that can take place between these "representatives," but it is important to consider how power relations structure these negotiations in advance. In the above example, the "stakeholder" discourse Latour fantasizes about might prove less of a reason for optimism if we replace the relatively elevated and certainly geopolitically more influential "voters of New Hampshire" with the inhabitants of a small island nation like Tuvalu or Kiribati facing an inexorable rise in sea levels which will wipe their country off the world map. The fact that the UN can hold a series of conventions in which scientists, corporations, government ministers, and NGO's get to collaborate through negotiation in the elaboration of a "pseudo-object" we can call 'climate change' does not in the least change the fact that the relatively more objective pseudo-object we could call 'global petro-chemically-fueled capitalism' continues to dictate the facts on the ground through a process considerably less dialogic. It is the concrete or specific character of the politics/science synthesis, and the way in which this synthesis is effected as a part of a larger tissue of such syntheses, that is at stake, rather than the cultivation of a smooth space of hybridization for the sake of hybridization.

Despite my disagreements with the direction of Latour's theoretical excursions, I share with him a deep interest in the way in which scientific objectivity comes to be used as a way to foreclose the possibility of political judgement. One must, however, pay attention to the specific concrete techniques by which this foreclosure is achieved — with the understanding that these techniques may look more like metaphorical displacements of political concerns and theories than the wholesale replacement of political controversies with scientific ones, and with the understanding that these displacements may not aim at Science or Nature as a whole, but at components of scientific practice or at scientific conceptions of specific phenomena (and vice versa).

3 Organized beings and bodies politic

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[6] I can't resist here, in trying to think the way in which objectivities engender each other differentially like elements of a hydrodynamic flow, in recalling Wittgenstein's riverbed analogy in Passage 96 of *On Certainty*: "It might be imagined that some propositions, of the form of empirical propositions, were hardened and functioned as channels for such empirical propositions as were not hardened but fluid; and that this relation altered with time, in that fluid propositions hardened, and hard ones became fluid." p. 15e, *On Certainty*. Oxford: Blackwell, 1975.

[7] *ibid*. p144

For example, let us note that Latour, in *We Have Never Been Modern*, rushes to reify Hobbes as the champion of the subject pole which ties power to knowledge through absolute sovereignty, and in the process more or less ignores Hobbes' figuration of sovereignty as a constituted social body constructed in analogy to a biological one. If Hobbes, as Latour (following Shapin and Schaffer) argues, wants to forbid the production of objectivity staged in the laboratory from contaminating the sovereign body, it is nevertheless a scientific understanding of the coherency of bodies and their final causes which informs the way this body is understood at all — a long tradition stretching back to Plato[8], Aristotle[9] and Paul[10], running through John of Salisbury[11] to Hobbes[12] and Rousseau[13], and on to Spencer[14]. While these authors differ as to the naturalness or artificialness of their respective bodies politic, the organic relation of form, functional division, and internal stability in their conceptions of the state remains a shared locus of political intelligibility.

We know that the teleological structure of natural organisms (their apparent inner finality or purposiveness) proved problematic for Immanuel Kant, who in the second half of his *Critique of Judgment* finds it so difficult to reconcile the apparent design in the way the parts of organisms fit together as a functional whole with his commitment to purposeless Newtonian matter. Unable to theorize the immanent production of form, he maintains that we are unable to think the living without reference to a teleological design. Subsequent biological theory can be read, at least in part, as efforts to think through this antinomy. Just as Darwin offers one narrative account of the genesis of organic forms, more recent investigations have begun to offer another (alternative, or perhaps merely complementary) account. These investigations, which I'll refer to collectively as 'emergent biology,' rethink the materialist basis of the living not just by looking for more and more intricate mechanisms of molecular machinery, as if life was just a better engineered version of Vaucanson's duck, but by examining emergent properties of systems, living or otherwise. Crucially, emergent biology blurs the line between vital organisms and dead matter by tracing the ways in which complex systems can come to organize themselves, with sets of local interactions, driven by feedback, constructing holistic order without the intervention of a teleological plan (whether Aristotelian, Christian, or written in ribonucleic acids).[15] For example, in D'Arcy Thompson's pioneering work, *Of Growth and Form*, one of the claims advanced is that the shape of a living membrane may result less from the execution of some program which encodes and figures that shape in advance, and more from the distributed action of physical laws operating throughout the surface of the membrane as it develops. Thompson analyzed the relatively simple case of soap films, where the action of surface tension will cause a film to almost instantaneously assume a shape which will minimize it's surface area (thus minimizing the energy of surface tension). In the case of a unbounded film, a spherical bubble results, but in more complicated cases, like that where multiple bubbles are packed into a constrained space, the mathematical structure of the resulting films can be quite complex. Many of these same structures reappear under the microscope when one looks at the arrangements of living cells, and Thompson's contention is that one could explain these and other forms of life without needing to assume that this shape's blueprint was planned out somewhere inside the organism. Instead, organic form can in

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8 *Laws* (628c ff.)

9 *Politics* 1253a

10 *I Corinthians* 12:12-27

11 *Policraticus*

12 *Leviathan*, Introduction

13 *Social Contract* III. Ch 11

14 "The Social Organism"

15 It's important here to avoid reading modern conceptions back into Kant's terminology. We have to distinguish Kant's use of the notion of the "self-organized" being, in which "every part is thought as *owing* its presence to the *agency* of all the remaining parts, and also as existing *for the sake of the others* and of the whole" and "must be an organ *producing* the other parts — each, consequently, reciprocally producing the others" (§65 of Kant, Immanuel. *The Critique of Judgement*. Oxford: Oxford UP, 1952.) from the idea of self-organization in the sciences of emergence, in which precisely what is at stake is the *mechanism* of self-organizing. At the same time, the difficulties in sorting out this potential confusion make it clear why emergence can be interpreted as (a sort of) teleology, a point which is essential to the argument that I will develop with respect to Goodiwn and Hardt/Negri later.

many cases be viewed as a "diagram of forces".[16] As the mathematical techniques available to deal with such complex systems have become more powerful (notably theories of catastrophe and chaos, and the widespread availability of computer simulations), new approaches to biological problems like that of embryological morphogenesis or the behavior of swarms have proliferated, and it is these investigations that I will refer to as 'emergent biology.'

Thus, emergent biology may be loosely characterized as a science of complex and dynamic morphology, in which internal structure and articulations can be seen as the result of attractors emerging from within the system itself. The system or the network is its own teleology, or better, produces its own teleology. Like Darwinian thought, which sought to bracket the problem of form through the assumption that natural selection over sufficient periods could account for the creation of form, and Mendelian genetics, which assumed that the problem of form could be displaced entirely onto a biological metalanguage (genes, and later, DNA), emergent biology also proposes an immanent solution to the problem of biological form — but one which takes the radical step of locating form as an immanent property of dynamic systems.[17]

These new scientific theories and discoveries have also made possible new sites of attachments for political problematics, opportunities to displace questions of politics onto brand-new scientific answers. If the idea of the body in the body politic, its transcendentally grounded unity of form and function, appealed most to reactionaries or constitutionalists, it is perhaps not an exaggeration to say that the self-organized body has appealed most to opponents of Power, who would like to redistribute sovereignty throughout the body politic or eliminate it completely. The holistic and ecological ways of theorizing life as one complex dynamic system among many promise that one might be able to think about the political in biological terms no longer as an as-if, as a metaphoric displacement between natural organisms and historical societies, but as different regions of a continuous and complex substance obeying identical principles of dynamical morphogenesis. The logic of this substance, as revealed through natural history, is thus seen as providing an attractive basis for an argument in favor of self-organization in the political domain, with an emphasis on maximizing local auto-determination.

In what follows, I hope to demonstrate that theories of the self-organized body politic can all too easily retain, perhaps to their disadvantage, elements of the teleological conception of the body that characterized earlier modes of political thought. Despite their immanent grounding in an emergent dynamic, and their refusal, or at least destabilization, of functional divisions or hierarchies, many attempts at 'emergent politics' cannot but think the body politic as complete (the organism as whole) and self-identical (the organism as the identifiable unit of life). The chaotic, catastrophic, or distributed system, rather than representing some sort of radical break with the past, can be merely the latest and most advanced machine or technique for the production of identity in the social domain. This continuing residue of the teleological presents a potential limit for these new projects of complex politics, especially inasmuch as they themselves promise a surpassing of this limit. In terms of the diagnosis offered earlier, it is not clear that this persistence of biological teleology as a grounding metaphor for political thought is to be ascribed solely to the fact that a politics has become contanimated with science (or vice versa), but rather that a complex and historically subtle motif or interplay between biological and political thought has been sustained despite significant mutations in both biology and politics. The new, strange, and yet ultimately familar bodies politic which are to be found in this intermediate zone are fragile conjunctions bestowing a provisonal objectivity on the political, rather than original sins against negotiation or Democracy. If we are to judge

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[16] Thompson, D'Arcy Wentworth. *Of Growth and Form*. Cambridge: Cambridge UP, 1994. For the soap buuble, see Chapter 3 "The Forms of Cells", and for the "diagram of forces", see p.11 of the introduction.

[17] Emergent biology has an interesting intellectual prehistory, especially if we recognize its links with the morphological tradition by understanding a stable dynamic system as expressing a *form*. For an excellent and comprehensive overview of the relationship between modern morphology (and other theories of developmental constraint) and Darwinian evolutionary thought, see Stephen Jay Gould's *The Structure of Evolutionary Theory*. Harvard University Press.

them, it can only be on their own terms, on what they themselves promise and point to from within a concrete situation.

4 Chaos and Social Democracy

As a first example, let us consider the foray into politics made by an important emergent biologist. Brian Goodwin, in his book *How the Leopard Changed Its Spots: The Evolution of Complexity*[18] , attempts to connect his (admirable) work in biology with a progressive political program, particularly in the final chapter entitled "A Science of Qualities".

An organism ... is a functional *and* structural unity in which the parts exists for *and by means of* one another in the expression of a particular nature.... Organisms are not molecular machines. They are functional and structural unities resulting from a self-organizing, self-generating dynamic.[19]

It is this notion of an emergent "coherent whole"[20] which informs Goodwin's foray into politics. An ecological or holistic optic reveals the way in which human organisms develop in relation to an environment which they also structure, and how the optimal solution for healthy development of these organisms involves the emergence of this relationship through local, bottom-up interactions. Human freedom is realized and maximized in a society which is allowed to emerge on its own terms. The community of organisms, in its ideal state, comes to share the self-structuring properties which identify the individual organism, combining a biological understanding of social structure with a normative judgement about health. Healthy societies have healthy members, and vice versa.

While this picture seems *prima facie* quite appealing, on closer inspection Goodwin's political thought remains perhaps too dependent on biological categories. Specifically, the "naturalness" of the natural organism, and the concomitant "naturalness" of its environment, is used to effect a sort of holistic closure, whereby the system within which the organism develops and lives or dies becomes Nature, a terrain of life (both animal and political) imbued with values preceding the organisms or societies which inhabit it. Metabolic and developmental ends are substituted for political ones, and are sanctified with recourse to a pantheistic theological vision which elevates qualities of life into moral ends.[21] In practice, what actually happens here is that questions of political organization are reduced to questions of public health. Rather than seriously considering what complexity means for political organization as an end, political organization is reduced to a means of securing the biological health of the human beings thus organized. Instead of explicating the morphogenesis of freedom, Goodwin agitates for a balanced diet.

This subordination of the question of political organization to the satisfaction of the needs of biological organisms can be seen most clearly in Goodwin's choice of examples. Goodwin valorizes the life led by the inhabitants of the Hunza valley in northern Pakistan, which is an admirable example of a preindustrial culture that has managed to develop "a lifestyle and a relationship with their environment that illustrates in dramatic fashion the type of balance between nature and society that allows the full flowering of human potential."[22] . Now, the Hunza, with their above-average lifespans and relative freedom from disease, serve well as a "dramatic" example of a possible way in which an ecologically-sound life can lead to better personal health. Yet Goodwin is vague on what political lesson can be drawn from this — he suggests that in order to understand the Hunza, we need to pay attention to "the dynamics of the field of sociality itself" and yet spends very little time discussing how this field is structured. It is clear that Goodwin wants to make some sort of connection between the manner in which the Hunza reproduce their society through social interaction, and the healthy and ecologically sound way in which they meet their needs, but it remains unclear what that connection might be. Certainly at the level of the political organization of the state, the Hunza offer little that

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[18] Goodwin, Brian. *How the Leopard Changed Its Spots: The Evolution of Complexity*. Princeton: Princeton UP, 2000.

[19] *How the Leopard Changed Its Spots*, p. 197

[20] *ibid.* p. 199

[21] See primarily the comments on Gunther Altner and the "goodness of all creation" on p. 232

[22] *ibid*. p. 206

seems characterized by an emergent order - until 1974 they were ruled by a hereditary monarch. If the "community acts as [the] coherent unit within which health and creativity flourish", it remains obscure why the structure of this community which we are meant to take as a normative example has anything to do with the kinds of dynamic systems he focuses on earlier in the book.[23]

Moreover, Goodwin's political valorization of the Hunza seems to depend on an undertheorized relationship between the biological individual, the political community, and the natural environment, such that if the health of the first and the integrity of the third are maintained, the conclusion is that the second is justly organized. Politics becomes public health — but the "health" of the community is reduced entirely to the biological health of its individual members, rather than considering the community as a dynamic system with its own criteria for structural stability.

What's troubling here is that Goodwin seems to be abandoning the perspective that informs the rest of his book, in which features of living organisms are explained by recourse to the productive power of the constraints holding for the evolution of dynamic systems in general. Instead, a normative dimension is (covertly) introduced by reducing the political to the problem of the expression of forces which are biological or even vital. An earlier theorist of mathematical morphogenesis, the French mathematician René Thom, systematized the crucial insight here that Goodwin does not manage to synthesize from his biological investigations: Thom insisted that if there were common ways in which systems behaved as stability gave way to catastrophe, this was due to a finite sapce of mathematical possibilities for the way such systems could evolve, independently of the particular "substrate" upon which the system was constructed.[24]

For our purposes here, this principle means that there is no way to say that self-reproducing, relatively stable social systems are necessarily connected in any substantial way to their biological substrates in such a way as to ensure that the topology of the first system ensures the health of the latter, or vice versa. In other words, where Goodwin reintroduces a natural substance infused with vital power and intrinsic values to explicate the organic continuity of human bodies and human communities, a sharper focus on the political implications of morphogenesis might reveal the possibility that dynamic stability may be achieved at any level of organization on the continuum between individual and community, without this stability translating across the continuum. For example, we could find all sorts of emergent morphology in something like an emissions trading market — but the stability of that market's dynamic form would have little to do with the health of the people living at any particular place and breathing any given quantity of pollution.

More generally, and to argue against Goodwin's science of values from the other direction, even *if* the atomistic and mechanistic world-view undergirding the dominant strains of biological thought necessarily entailed the concomitant practice of an ecologically unsound and exploitative instrumental reason and the institution of ultimately pernicious social relationships (and this is a big if), it remains unclear that the *scientific* corrective which reimagines the world as an interlocking system of emergent wholes necessarily *also* brings with it more sustainable, just, and egalitarian relations of production and social reproduction.

We can see the tension at work here in Goodwin's discussion of his second primary example of a "healthy society," the Peckham experiment(the Pioneer Health Centre). On the one hand, the relative health and attitude of the members of the Centre does point towards the role of self-organized (social) activity in contributing both to the physical well-being of human beings and to these human beings psychological investment in their social institutions. But on the other hand, this self-organization took place within an environment *designed* for the promotion of health, conceived and staffed by experts. To take just one aspect of the project's infrastructure, the architecture of the building certainly played a role in the salutory effects of the space, but the morphogenesis of the design

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[23] *ibid*. b 210

[24] For a formulation of the principle of the independence of the substrate, see René Thom, *Mathematical Models of Morphogenesis*, section 1.1.2.

followed from a modernist impulse rather than any process of auto-structuration.[25] The political subjects of the Peckham experiment (the scientists, architects, etc.) remain ultimately distinct from the experimental subjects (the member/patients). If we try to work through Goodwin's valorization of the Centre as a political project, the gap between the institutionalizing and the institutionalized still presents an unacceptable translation of scientific objectivity into political authority. Thematizing this gap (rather than, as Goodwin does, occluding it) does not mean denying that the community of Pioneer clients itself helped fund the Centre's operation through subscriptions, or more generally insisting on a strict division between those in power and those operated upon by it, but to note that *in Goodwin's own analysis* the activities that are valorized as exemplars of healthy self-organization (like the children swimming when they want to as opposed to at separate times) all take place *within* the institutional context rather than bearing on the construction of the institution itself. At the same time as Goodwin identifies the complex and dynamic with the intrinsically valuable and vital, his political project founders in its inability to ground itself in anything but the availability of a blank slate or a Utopian break. The "science of qualities" provides a technique for constructing an object of politics, one in which health, Nature, and community are identified and brought together, but this object remains chimerical.

5 Networks and Swarms

> The process of simple local units generating complicated global or group behavior, a process not directed by a conscious entity but rather, emerging through the interrelationships of the system's parts is known in scientific circles as emergence. If numbers, neurons, crowds, computer programs, cells, city dwellers, birds behave like this, why not a networked movement of movements? [26]

With the Zapatista uprising in 1994 (the year Goodwin would publish *How the Leopard Changed Its Spots*), and the subsequent emergence of a decentralized international network of movements against neoliberal globalization, the task of coming to grips with the implications of a politics of complexity acquired a new urgency. In the process of composing its self-understanding, sectors of an increasingly "emergent" left came to draw upon the very metaphors of biological emergence that Goodwin had marshalled for a vision of ecological harmony and public health to articulate a project with much more radical contours. In describing the emergence of a movement which felt itself capable not just of building a more well-adjusted world, but ready to attack the foundations of the capitalist world-system (and to do so without recourse to a plan, a central committee, or an infallible teleological history of the future), this "movement of movements" made Goodwin's attempts at a politics of complexity seem somewhat tepid by comparison.[27]

The quote that opens this section, from an introductory essay in the book *We Are Everywhere: The Irresistible Rise of Global Anticapitalism* by the "Notes from Nowhere" collective, is a more or less representative sample of the way in which emergent biological tropes are deployed in the self-representational strategies of the new social movements. We can note first of all that there is an important shift here from Goodwin's perspective, in which the focus was on the organism, considered as a structuring totality, as a individual possessing a (dynamic) form. Now the emphasis is on the plural, taking us from the individual to the network, from the organism to the swarm. In both cases what was at stake was a system, but the new emphasis on the many over the one opens up a different political terrain. There is an ambiguity in the *We Are Everywhere* formulation which pervades left discourse around networks and deserves further exploration, namely whether the network is a tactic or an end in itself,[28] or in other words whether the network form has an intrinsic

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[25] To be fair, self-assembling buildings are rather rare!

[26] Notes from Nowhere. *We Are Everywhere: The Irresistible Rise of Global Anticapitalism* London: Verso, 2003. See http://www.narconews.com/Issue34/article1089.html for the online text of the chapter "Networks: The Ecology of the Movements" from which this quote was taken, specifically the section entitled "The Logic of the Swarm."

[27] While a non-Marxist left had been articulating a vision of decentralized resistance for some time, it is only really with the globalization of these movements and the concomitant sense of their own efficacy that marks the deployment of the "network" trope in these movements self-understanding. Hence the otherwise arbitrary choice of 1994 as epochal.

[28] A very good example of the first position is to be found in the pamphlet "Curious About Emergence? Anarchy, Ants, and Artificial Intelligence: What Emergence has to Offer the Revolutionist" by the Curious George Brigade (a subset of the loose network of activist writers and cultural theorists

political value. It is worthwhile to remember that one of the most famous theorizations of the network form in contemporary politics came out of the RAND corporation, the (in)famous *Networks and Netwars*[29] text which sought on the one hand to conflate internet-savvy antiglobalization protesters and Chiapan rebels with fundamentalist terrorists, but also to reappropriate the network form as a technique of military dominance, the appropriate response to networked 'enemies' and a powerful component of the "Revolution in Military Affairs".[30]

5.1 Networks and Multitudes

Furthermore, just as Goodwin's program of political and ecological harmony remains tied to a notion of the functional wholeness of the organism which his own analytical toolkit pointed beyond, the idea of the network in contemporary (left) political discourse remains within an ambiguity between plurality and multiplicity. On the one hand, the network serves as the figure of a fundamentally open-ended system, a system of disruptive multiplicity; on the other, the network is equated with a kind of system (specifically a living system, with all the teleological baggage carried by the idea of the organism), in which a plurality of parts are reconciled into a functional whole. Consider a further passage from *We Are Everywhere*:

> As the networks grow more connected, by webs and actions, wires and stories, many things will emerge that we, as mere neurons in the network, don't expect, don't understand, can't control, and may not even perceive. The only way to understand an emergent system is to let it run, because no individual agent will ever be able to reveal the whole. The global movement of movements for life against money, for autonomy and dignity, for the dream of distributed direct democracy, are following an irresistible logic. It is a logic as old as the hills and the forests, an eco-logic, a bio-logic, the profound logic of life.[31]

On the one hand, the complexity of the network makes it less certain, less amenable to control or prediction — but on the other hand we are assured that the network will flow smoothly according to an "eco-logic," the "profound logic of life," towards functional coherence and globalized harmony with life itself.

Perhaps it is unfair to single out the admittedly rhetorical prefatory remarks in *We Are Everywhere* for criticism — even if they do encapsulate and make explicit a good deal of thought on networks amongst the "movement of movements", and even if the pitfalls of ascribing an "irresistible logic" to a revolutionary movement, buttressed by scientific claims, need to be historically illuminated. A better target to engage with is one which presents itself as a work of revolutionary theory, and it is for this reason that I will consider the same contradictions as they are expressed in Michael Hardt and Antonio Negri's *Multitude: War and Democracy in the Age of Empire*.

The term "multitude" has long stood for the many as the ungovernable, as purely destructive, fickle, prone to being swayed by desire and passion, synonymous with the mob. The project of Hardt and Negri's book is to reestablish the multitude as the basis for the revolutionary project, underwritten in part by a (re)interpretation of Spinoza's political thought. In part, this takes place by rethinking the multitude[32] as network, so that resistance can be refigured as a swarm rather than an orderly march into battle. Biological science is used here to articulate this passage: the swarm can be at once undirected, formless, horrifying, unreadable, while at the same time possessed of an internal teleology:

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called crimethInc). The authors of the pamphlet make it very clear that they are making "no judgement on this type of organization. Emergence can lead just as easy[sic] to vigilante mobs as to pirate radio stations. Emergence primarily focuses on the mathematical and physical relations of organizations, divorced of morality and ethics". Instead of a valorization of emergence, the authors proceed to offer some tentative *practical* suggestions for calibrating the size and topologies of groups in order to maximize effective feedback loops and encourage emergence.

29 *Networks and Netwars: The Future of Terror, Crime, and Militancy*, edited by John Arquilla and David Ronfeldt. RAND Corporation, 2001.

30 For a particularly sobering exploration of a related encounter between theory and military strategists, see Eyal Weismann, "Walking through walls : Soldiers as Architects in the Israeli-Palestinian Conflict". *Radical Philosophy* March/April 2006.

31 *ibid.*

32 Even in the use of the definite article here we see the tension between unity and multiplicity: *the* multitude rather than multitude or multitudes!

> When a distributed network attacks, it swarms its enemy: innumerable independent forces seem to strike from all directions at a particular point and then disappear back into the environment. From an external perspective, the network attack is described as a swarm because it appear formless. Since the network has no center that dictates order, those who can only think in terms of traditional models may assume it has no whatsoever organization they see mere spontaneity and anarchy. The network attack appears something like a swarm of birds or insects in a horror film, a multitude of mindless assailants, unknown, uncertain, unseen, and unexpected. If one looks inside a network, however, one can see that is indeed organized, rational, and creative. It has swarm intelligence.
>
> Recent researchers in artificial intelligence and computational methods use the term swarm intelligence to name collective and distributed techniques of problem solving without centralized control or the provision of a global model. Part of the problem with much of the previous artificial intelligence research, they claim, is that it assumes intelligence to be based in an individual mind, whereas they assert that intelligence is fundamentally social. These researchers thus derive the notion of the swarm from the collective behavior of social animals, such as ants, bees, and termites, to investigate multi-agent distributed systems of intelligence. Common animal behavior can give an initial approximation of this idea. Consider, for example, how tropical termites build magnificent, domed structures by communicating with each other; researchers hypothesize that each termite follows the pheromone concentration left by other termites in the swarm. Although none of the individual termites has a high intelligence, the swarm of termites forms an intelligent system with no central control. The intelligence of the swarm is based fundamentally on communication.[33]

While Hardt and Negri themselves try to distinguish the network form from the specific content therein, and reserve any valorization for the latter,[34] it's unclear whether this methodological precaution holds in the end. In part, the point of *Multitude* is to argue that as globalized capital comes more and more to rely on "general intelligence" and the circulation of productive affects, this creates the conditions for capital to be superseded — in other words the passage from Empire to Democracy. But this means that the content of the form for the central case under consideration tends to start looking like this form itself. "Indeed when the products of labor are not material goods but social relationships, networks of communication, and forms of life, then it becomes clear that economic production immediately implies a kind of political production, or the production of society itself."[35] It is at this point that the networked multitude is recast as an organic totality (albeit a emergent one) in order to guarantee the coherency of the political project. Hardt and Negri claim:

> A democratic multitude cannot be a political body, at least not in the modern form. The multitude is something like singular flesh that refuses the organic unity of the body.[36]

This move is made to distance the multitudinous resistance Hardt and Negri embrace from the functional and teleological unity of a hierarchical body politic grounded in sovereignty, but it becomes clear that Hardt and Negri's project depends upon on precisely an "organic unity" inasmuch as the multitude produces what is common. It's here that emergent biology enters as a way to understand this new kind of social body:

> There is no one that makes a decision in the brain, but rather a swarm, a multitude that acts in concert. From the perspective of neurobiologists, the one never decides. It seems that some scientific developments are following a path parallel to our own thinking. Perhaps we were wrong earlier ... to say that the multitude betrays the traditional analogy between the human body and the social body, that the multitude is not body — but if so, we were wrong for the right reason. If the analogy holds, in other words, it is because the human body is itself a multitude organized on the plane of immanence.[37]

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33 *Multitude: War and Democracy in the Age of Empire* p. 91

34 *ibid*. p. 93:

We should also recognize that considering the genealogies of resistances only in terms of *form* as we have done primarily up to now is not sufficient. The formal differences among centralized armies, polycentric guerilla bands, the distributed networks do provide one criterion for evaluating and distinguishing among resistance movements but not the only or most important one. Such formal differences between, say, the globalization movements and terrorist networks or between the Zapatistas and drug rings, only capture a small fraction of what is really different between them. We have to look not only at the form but also the content of what they do. The fact that a network is organized as a network or a swarm does not guarantee that it is peaceful or democratic.

35 *ibid*. p. 336.

36 *ibid*. p. 162

37 *ibid*. p. 337

The picture of the multitude that is developed here shares the same flaw as Goodwin's less revolutionary transposition of biology onto politics — rather than elaborate the ways in which different independent networks can form on the social substrate, the network form is taken to be a unitary phenomena in analogy with the organism, in this case as the material system of production of a globalized world-system. When Hardt and Negri claim that "if the multitude is to form a body, in any case, it will remain always and necessarily an open, plural composition and never become a unitary whole divided by hierarchical organs," the lack of hierarchical design does not impinge upon the fact that the multitude remains a composition, a totalized and totalizing whole, no matter how open.[38]

It is for this reason that, in Hardt and Negri's conception, the partial labor of a single element in the network refers to the production of the entire network, and the isolated act of resistance or refusal immediately communes with a globalized strategy of exodus. In order to arrive at a purely sociological description of post-Fordist labor in terms of complex networks, it is not necessary to go beyond sets of individuals with particular relations holding among them as they produce, communicate, are affected and effect affects in turn. For Hardt and Negri, on the other hand, it is necessary to valorize the global production of a networked multitude, whose flesh is common.[39] Part of the work that concepts like "networks" and "swarms" are made to perform in *Multitude* is to shore up the objectivity of this hypothesized global flesh.

5.2 From Plurality to Multiplicty?

The failure of Hardt and Negri's book to really paint a picture of the multitude as something other than an organic totality is made more acute by the fact that this is precisely the task they set out for themselves. In figuring the multitude as a positive figure of a coherent whole, they succeed in obscuring the idea that the multitude is rather a sort of generalized rupture in the fabric of capitalism, the disruption not just of the global capitalist and imperialist orders but also of its own unity. Is the political appeal of the network form, of chaos and emergence, to be found in the backdoor reintroduction of organic unity and functional teleology, a plan without bosses, or in something closer to the idea of disruption, to the monstrous aspects of the swarm, its uncontrollable, unpredictable, and unfathomable aspects? Could the appeal of the network as manifested in the "movement of movements" be less due to its amazing efficacy as a form of organization but rather to the affects (of surprise, of wonder) and seemingly miraculous encounters it proved capable of producing? Rather than a concept of a positively given whole still haunted by the traces of the organism despite its networked articulation, what if something else were at stake?

One way to frame these questions is to ask whether or not the multitude procedes according to a minoritarian "logic", in the sense Deleuze and Guattari develop in their work*A Thousand Plateaus*. What I don't want to do here is establish once and for all the relation holding between concepts borrowed explicitly in *Multitude* from *A Thousand Plateaus* (like the "body without organs," which opens Chapter 3, "De Corpore") and the rest of the related but not identical concepts in Deleuze and Guatarri's bestiary (rhizomes, war machines, multiplicities and becomings, planes of consistency, smooth spaces, deterritorializtions, lines of flight, and so on), nor to trace out the ways in which Negri's automonist Marxist thought conjugated with the project of *A Thousand Plateaus*.[40] Rather, I want to pick out a single line of argument pursued in a part of *Plateaus* which deals with the question of political organization in a way which may not prove reconcilable with the way in which Negri (and Goodwin) think about the value of self-organizing communities. The passage in question comes at the conclusion of the plateau entitled "7000 B.C.: Apparatus of Capture":

> The issue is not at all anarchy versus organization, not even centralism versus decentralization, but a calculus or conception of the problems of nondenumerable sets, against the axiomatic of denumerable sets. Such a calculus may have its own compositions, organizations, even

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38 *ibid*. p. 190

39 "Looking at our postmodern society, in fact, free from any nostalgia for the modern social bodies that have dissolved or the people that is missing, one can see that what we experience is a kind of social flesh, a flesh that is not a body, a flesh that is common, living substance." *ibid*. p. 192

40 For the briefest trace, see p. 469 of *A Thousand Plateaus*. Minnesota: U of Minnesota P, 1987.

> centralizations; nevertheless, it proceeds not via the States or the axiomatic process but via a pure becoming of the minorities.[41]

What I want to suggest is that the self-organized and decentralized network, no matter how radical its goals, remains a denumerable set, in the sense of the above quotation. Increasingly, the *network* provides the axiomatic for capitalist development, rather than an alternative to it. Moreover, we can see, by tracing the way in which the teleological remants, the echoes of a functional whole, the coherency of the vital, impinge upon Goodwin's political project, and how these same echoes and remnants continue to intrude on the contemporary left project of a 'network of networks' (for example in Hardt and Negri's thinking of the multitude), which, no matter how open-ended, how dynamically self-generated, the community or network becomes, still remains denumerable, decidable. The conceptual tools of emergent biology allow Goodwin and Hardt/Negri to refigure the topology of the living political organism, but for both, this transposition leaves the idea that the political field is positively given as an identifiable composition of elements intact — although Hardt and Negri, *in parts of their argument*, go a lot farther in trying to subvert this unity. What Deleuze and Guatarri demonstrate is how to go beyond plurality to multiplicity, where the latter has nothing to do with numeric quantities. If many different things are composed, networked together, this doesn't necessarily mean that any of them are going to be swept up with each other, driven beyond and outside of their own individual identities. The network remains denumerable, decidable, a set of sets. For Deleuze and Guattari, to think multiplicity means to comprehend a qualitative jump beyond the organism — a pack of wolves is not just a bunch of wolves[42] . Whereas Hardt and Negri want to think the production of *common* as the proliferation of networks on the boundary between capital and multitude, Deleuze and Guattari might re-envison the common as disruption. Whether or not the mobilization of 'emergent' biological metaphors remains productive here is anyone's guess — perhaps the illumination of this particular stratum, especially in its absoluteness, its affinity with paradox and limit, requires a different transposition, drawing more from logic rather than biology. Perhaps such a strategy might be more apt to reopen or expand the political question, rather than rephrasing the old teleological answers.

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[41] *ibid*. p. 471. (cited by Graeme Chesters and Ian Walsh "Complexity and Social Movement(s) Process and Emergence in Planetary Action Systems," Theory, Culture & Society 2005 (SAGE, London, Thousand Oaks and New Delhi), Vol. 22(5))

[42] *ibid*. Plateau "1914: One or Several Wolves? "

MOBILITY AND ORGANIZATION

Glocalisation as a curatorial and artistic mission

Marga van Mechelen

The subject of my talk, which is related to my (ASCA) research project Practices in art as network practices, are several conceptions of the term 'glocalisation' and their relation to some recent art projects and curatorial practices. In recent years old object orientated art practices are ousted by new global as well as local network practices. Remote areas got access to the international art discours that stimulated new democratic structures to bridge cultural, ethnic, social and gender related gaps, but also the reflection on how being directed on global issues and at the same time engaged with local affairs. It is this duality of global/local, often contracted in the adjective 'glocal' that I will focus on, asking also questions such as: What kind of operations are brought into action, who is the addressee and what are the goals of these art practices?

Innovative Artists . Net Art: Genesis, Figures, Situations

Jean-Paul Fourmentraux

** This paper*
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A more "expressivist" form of communication is apparent today in a range of media - in the flourishing growth of the means for self-production and the production of the self in the form of personal web sites, blogs and their attendant technology (syndication, tags, podcasting, videoblogging, etc.) and the networks for communication among Internet users and their associated practices (fansubbing, fan films, etc.). Since the late 1990s, net art has been guiding and prefiguring these "mass" technologies and practices by multiplying the ambivalence of our relationship with the Internet, which is both intimate and dreadfully solitary. As new dialogue interfaces grow and expand, we withdraw from the real world, which is both more collective and community-minded. Today, the term net art refers to interactive works of art designed by, for and with the Internet, as distinct from more traditional forms of art which have simply been transferred onto the web sites of art galleries and other virtual museums. In the art world, the originality of the Internet lies in the fact that it is simultaneously a medium, a tool and a creative environment. By medium I mean a vector of transmission, in the sense that the Internet is its own broadcaster; by tool, the way it is used as a means of production, giving rise to different usages and generating new artistic products; and by environment the fact that it is a space both inhabitable and inhabited. In this context, artists seek at least as much to design interactive devices (1) as they do to create settings for communication. Using all the means at its disposal-the Web (HTML FTP, peer to peer) but also e-mail and chat-net art encourages the production of works whose relational and collaborative aspects have turned the relations between art and society upside down. Internet sites, home pages, blogs, mailing lists and discussion forums have become the new forms of sociability. Net art, by associating itself with this dynamic, can take the shape of specific forms of interactivity but also of the production of on-line lifestyles and communication strategies. The Internet has become both an on-line artist's studio and a gallery space: a space for artistic creation and for communicating and receiving artistic practices.

As a result, the works of art produced there are multifarious-environments to be navigated, programs to be executed, forms to be altered-and sometimes go so far as to include the possibility of adding to or altering the initial artistic material. A close examination of net art clearly reveals this slippage through which the work of art is less what is on display than the process that brought it about. Visibility on the screen is only the face of an entire technological and communicational infrastructure, making the work of art, more generally speaking, the entire range of structures and rules underlying it. All works of net art are made up, in fact, of a proscenium (the interface), a stage made up of the various elements drawn on to create the work (text, sounds, images) and the wings (where the program and fragments of computer applications are housed). This fact, and the analytical distance provided by ten years of experimentation and artistic creation on the Internet enable us today to distinguish three principal forms of net art: works of media contamination, works of algorithmic generation and works of interactive communication. The first kind is based principally on the (media-based) interface through which the work is conveyed: use and communication. The second is focused on the (algorithmic) program of animation objects or environment objects which may or may not provide the web surfer with the possibility of interaction. The third is centred on interactive content, from the arborescent object (taking a reticular path) to the object in the process of creation (granting an alterative path) to the relation object (which distributes an inter-communicational path). From this perspective, the subject of the media art work is digital material, while

that of the algorithmic art work the software program and that of the interactive art work (formal) communication and what arises from it. The artistic manipulations by and for the Internet thus have as their goal the medium's structure and architecture, the software codes and programs generated, the creation of hypertext links and paths and, finally, the forms of communication and artistic content (sounds and images) deployed.

The purpose of this article is not to provide an exhaustive description of each of these forms (for this the reader is referred to my recently published book) but rather both to provide an overview and sketch the evolution of net art by highlighting two principal trends: the convergence of technological innovation and artistic creation by means of "creative hacking", on the one hand, and the hardening of the relational aesthetic and creative social networks on the other. None of this is without links to the typology mentioned above, on the contrary. For it appears that recent work, while still part of what can be called net art, radicalises the spirit and form of that art by putting technological innovation and the social practices and uses which derive from it into tension, on the one hand, and on the other by inventing new cultural and media relations and practices. By hardening these artistic logics and methods found on the Internet, by continuing to develop in an original manner, net art has succeeded in contaminating the other arts and in influencing relational exchanges and practices off the Internet. To accomplish this, net art re-materialises in the objects or performances most frequently linked to the physical or institutional spaces of artistic consecration (museums, galleries, artists' centres) while at the same time drawing out of this re-territorialisation technological ways of using and doing that can be transposed into the real world. The present article, taking the opportunity afforded by the tenth anniversary of net art to cast a glance back at its history and take note of the influence of its major works, will also survey some recent work and the issues they address.

THE ARTIST AS HACKER: INVENTING SOCIO-TECHNOLOGICAL WORKS OF ART AND COMPUTER PROGRAMS

The enquiry into the medium which marked the earliest Internet-based works of art (2) has become radicalised today in new forms of artistic creation which adopt the most recent technological advances. The pioneers of net art often denounced the strength of the almost exclusive language for organising hypertextual data, HTML, which, they claimed, contributed to the uniform nature of most web sites, both in their structure and the appearance of their interface. Artists at the time proposed to get around these prescriptions for the use of web sites whose aim was to discipline the way they were used: links highlighted in blue, clickable images, title and body zones. Net artists proposed alternatives to strictly functional options such as point-and-click as the convention of navigation and the constrained distribution of information and its fixed reception, with no possibility of intervening in or transforming it. A growing number of net artists are calling for this kind of parasitical involvement (3). Their early forms of artistic action aimed at contaminating the Internet with artistic viruses which borrowed the deviant logic and behaviour of the hacker (4). Some artists devised a system of infection and communication, with the goal of creating incidents, bugs, technological discomfort and the loss of bearings. Jodi's pioneering works (5), for example, acted upon the structure of HTML language by altering the transformation code which enables a web site's structure, whether on the level of the page layout, the integration of multimedia components or the sound, image or video. By intruding into the very root of a site, on the level of its language and computer code, these works generated basic errors and contradictory commands: in this case, the system error 404 they displayed became a form of creative leitmotif. Jodi thus brought the user into the rhizomatic maze of a hare and hounds game from which it was often impossible to escape; their jamming interfaces confront the visitor with the constant apparition of warning messages and cause them to lose control of the computer, which ceases to respond to any command.

Other net artists, paying closer attention to the Internet's back rooms, have designed subversive navigators and search engines; Mark Napier's Shredder (6) and Maciej Winiewski's Netomat are the emblematic examples of this genre. These works appropriate Internet data by altering HTML code before it is interpreted by navigation software. They

are anti-search engines which give back to the Internet its potential as a dynamic and modifiable archive. Netomat, for example, responds to web surfers' requests with a surge of texts, sounds and fixed or moving images taken from the web. It is up to the user to combine or recombine this information without worrying about the arborescence of the site or the structure of the page it has been taken from. On the border line between a navigator, a search engine and a data extractor, Netomat offers an active form of access to and recovering information on the Internet. Its program, the open-source Netomatic Markup Language, is itself modular and adaptable. It can be appropriated and improved by its users or serve as a platform for other applications.

TraceNoizer (7) also defends a mode of artistic production based on the development of open-source applications and computer tools used in ways not intended. This generator of informational clones crosses the functions of a search engine with the statistical tools of indexing and tracking used in Internet links. The work generates false personal pages and disseminates them on the web to obscure participants' identity. Users are invited to use TraceNoizer to create their own web page out of their names. The system creates an intimate portrait of the person by locating and re-arranging sources connected to them on the web. The project exploits the idea that everyone using the Internet, sometimes without wishing to, leaves a number of digital traces of their passage (traces derived from the name in their e-mail address, from order forms, electronic signatures, software user agreements, etc.). TraceNoizer then works up this data, multiplying it and transposing it to other contexts. This creative application covers tracks and mixes the true and the false, thereby rendering it difficult to assess this (mis)information. The result is a fragmented identity which places the user in an algorithmic nether space between traces gleaned on the web and those generated by TraceNoizer, which are constantly cut up and altered in the way they are displayed and organised.

This first wave of net art has social and technological implications for finding and using information on the Internet. Here, browsers are like sense organs, through which we see the web: they filter and organise the information scattered about an exponential number of computers around the world. Other methods for distorting Internet content and tools have a more political goal. The collective work Carnivore (8), unveiled at the Ars Electronica festival, is a doctored version of the DCS1000 software used by the FBI to perform electronic eavesdropping on the Internet. Josh On, of Futurefarmers, offers an anti-imperialist version of video games whose mission is the war against terrorism (9). Heath Bunting (10) perverts the media communications of large financial institutions. The U.S. collective RTMARK (11) subverts the communications strategies of large, private brokerage houses. The French collective PAVU (12) transports and parodies the economic logic of auditing and consulting firms into the Internet's artistic and cultural milieu. They initiate information resulting from plining pre-existing data on the web, which is used to create currency (the gnou) and a system of financial valuation matched to transacting works of art. Finally, the European collective ETOY (13) carries out a variety of actions at the heart of the political and economic battlefield around Internet domain names (DNS, dot.com), thereby inaugurating a war of information in the domain of e-business and new financial stocks such as NASDAQ.

At the dawn of Web 2.0, the French artist Cristophe Bruno exemplifies the rise of the parasite artist by "attacking" the tools and rituals of the collaborative web. He has baptised an initial site of works "Google Hacks": artistic systems and computer programs which subvert Google's utilitarian operations in order to reveal its hidden, constraining dimensions. According to Bruno, the Internet has become a tool for total surveillance and control whose economic dynamic is the analysis and prediction of trends, using software to track private taste and identity on the web. To reveal these determinisms, he calls a series of Wi-Fi Internet performances in physical space The Human Browser. Through headphones, an actor hears a synthetic voice reading a flow of Internet texts in real time, acting out the text he hears. This textual flow is recorded by a program, installed on a Wi-Fi laptop, which subverts Google's utilitarian operations. According to the context in which the actor finds himself, certain keywords are sent to the program (using a Wi-Fi PDA) and used as input in Google, constantly linking the textual flux to the context. At SIANA (Semaine Internationale des Arts Numériques et Alternatifs or International Digital and Alternative Art Fair) held from 15 to 17 March 2007 in Evry, France, Bruno presented WiFi-SM, which invites the viewer-actor to share the world's pain: a WiFi-SM patch, placed on

a volunteer's body, does a Google search of 4,500 information sources around the world for programmed words suggesting evil and suffering-"murder", "violence", "rape", "virus". Each time a keyword is found, the viewer experiences a small electric shock, in sympathy with global suffering. With this "P2P (Pain to Pain" technology, Bruno parodies advertising and proposes a marketing slogan: "lower your guilt complex." (14)

Many net artists have been associated since the beginning of the Internet with the freeware movement, creating works of art inspired by the "copyleft" model of open source and collaborative code development. The Art Bit Collection (15) of the International Computer Consortium of Tokyo (ICC) and the site runme.org (16) bring together work that explores this form of net art, principally experiments around program languages, software environments, network communities, applications for visualising the back rooms of the web and, finally, subverted applications of interactive software. These projects focus on computer applications which can be used by web surfers, also known as software authors.

THE IMAGE AND COMMUNICATION RE-INVENTED

While the use of digital technologies in contemporary art reinforces the predominance of the conceptual underpinnings and various registers of the artistic expression of computer ideas, codes and programs, it also rehabilitates the image and communicative exchange. On the one hand, digital art created for the Internet gives rise, in many respects, to new kinds of artistic images and their reception. These images become increasingly visible on our computer screens the more these computers' ability to archive and retrieve them grows. Initially, images were employed on our screens to create a background, to illustrate and dress up a text; little by little they have come into their own, appreciated for their own graphic and aesthetic qualities. But here again, this aesthetic is transformed by the confrontation with the computer, which endows it with new prescriptions. The interactive digital image no longer fixes reality: it brings shared environments to life and makes them visible. Synthetically generated or digitised, the image takes on hitherto unseen uses. Well beyond its functions of illustrating or representing, it makes possible, through computers, the employment of various modes of action. On the other hand, the interactivity introduced into and by the computer image gives rise to new art forms while making possible concrete possibilities for communication and action on the part of the public. The image, in effect, is acted upon (17) and becomes something to be performed as much as something to look at. It is more a part of the multi-layered interface known as exploration. Permeable and sometimes even malleable, it nevertheless gains depth. In other words, the digital image becomes equipped and augmented (18) with a functional dimension. It lends itself to highly diverse artistic experiments and reception practices. Rising above the traditional contrast between high and mass art, net art thus joins media practices and the aesthetic experience of new forms of artistic creation: video games, interactive cinema, digital and interactive installations.

At the interface of interactive cinema, video games and the Internet, a growing number of artists are working to find new ways to display images and new ways of relating to them. The Internet image becomes a shared environment. Like Mouchette, many net art projects adopt the form of an illustrated and changing narrative similar to the diary form. Now, however, it is editorialised, revealed and experienced almost in real time on the web. These projects explore on-line the possibilities of a visual and textual archive that it is possible to display and maintain over the long term, with or without the participation of visitors. Here the form of the image-narrative borrowed from the cinema becomes the space of play and a communication environment (19). The interactivity on offer consists in a possibility of acting upon the sequence and the unfolding of sequences or dynamic mini-narratives which react in real time to visitors' actions. Certain "potential" images become the theatre of operations between the artist, the program and the public. This is particularly the case of projects created by artists and computer people (20) working in tandem to create a kind of interactive cinema for the Internet, in which interactivity allows the viewer to change's the film's linearity (21). Other net art projects explore new ways of creating a collective image. Like the pioneering project of the artist-engineer Olivier Auber, the Générateur Poïétique, these works confer new forms of use upon recent

mobile technology (cellular telephones, palm pilots, GPS, etc.). In urban space, for example, artists create installations which rely on the public's participation, like those of the Nuit Blanche of October 2004 in Paris, where it was possible to play Tetris on the façade of the Bibliothèque Nationale de France. The library's T2 tower was transformed into a giant screen (20 x 36 pixels on a 3,370 square-metre surface) using light from the windows. Telephone calls and the sending of SMS messages had an artistic impact on the lighting of the façade (22).

Net art also tends to take shape in physical objects, like the artistic experiments of Douglas Édric Stanely, who for a number of years has been exploring experimental forms of a new kind of cinema, which he calls interactive, generative or algorithmic cinema. His major work – Concrescence (23) - enquires into the possibilities of narration and the forms of experience proper to the programmed image. His work links interactive and generative narrative software with a physical set-up for interacting with the image, a hypertable which, in defiance of the laws of film projection, consists of a horizontal screen on which the viewer can manipulate and experience various narratives and images. According to Stanley, "the choice of images, that is to say the narration, comes from the interaction between the hand (of the viewer) and the program". Even without interaction, the program of artificial life makes images appear and disappear according to the rules of behaviour in reaction to the viewer's actions. "This independence of two life systems-the user's hand and the system of artificial life growing up around it-makes it possible to create a story in the face of any kind of interaction".

Here the image is in no way an end in itself. Rather, it embodies a link, an interface which displays on-screen a language structure and renders the program visible while at the same time linking the author and the audience. By creating a hybrid of the ways of creating narratives proper to the cinema and the "playability" proper to video games, it gains in interactivity and gives rise to artistic experimentation and new forms of reception. The "virtual" and "fragmented" model inherited from computer technology redefines the qualities of the "image", the way it circulates or becomes a part of the narrative. The image is no longer at the service of a linear narrative or a fixed representation. It plays the role of an interface which is mobilised to design, support and act a work of art whose ideal career presupposes precisely that some of its fragments become potential or "acted out" (24). In this sense, the image is caught between the representation of the work designed by its author and the context in which it is read by its visitors.

The specificity of net art and its recent development resides today in this combination of technological configuration and ritualised social opportunity. The audience's involvement, here, is a new from of imperative. It is enacted in computer systems which generate various models of interactivity. It is the object of artistic strategies for creating loyalty and rests on the audience's construction of "takes". It engenders, finally, various reception "contracts" and "rituals" proper to this art form. As a result, the works of art produced by it are dialogical, in the sense that they create a negotiated reception with the audience. The result is a collective form of articulation and operation which is no longer at the service of a sole result but rather imbedded in a changing and incremental process in which various actors, individually and collectively, participate in a work at the boundary to be made and re-made. The Internet has placed the work of art at the centre of a negotiation that is distributed socially amongst artists, computer people, technological systems and an involved viewer.

Notes

1 : On this notion of "devices" in technological arts, see:

Anne-Marie Duguet, « Dispositifs », in Communications n° 48, Seuil, Paris, 1988, pp. 221-242;

Douglas-Edric Stanley, Essais d'interactivité. Hypothèses, analyses et expériences, Mémoire de DEA, Université Paris 8, Laboratoire d'Esthétique de l'interactivité, Paris, 1998.

Jean-Paul Fourmentraux, Art et Internet. Les nouvelles figures de la création. Paris, CNRS Éditions, 2005.

2 : The same phenomenon affected the early history of photography, cinema and video, which were in turn explored and subverted by experimental artists. Nam June Paik's and Wolf Vostell's early videos were devoted to destroying television, physically (in the form of video sculptures) as well as symbolically, by acting upon the medium itself by altering the video signal. Television, the piece of furniture itself, the screen, the cathode tube, the video signal and its non-definition, its feverishness and luminance were taken as both the object and the material of the artistic enquiry.

3 : For an early manifesto for an "activist" net art see Joachim Blank http://www.irational.org/cern/Netart.txt

4 : For an early manifesto for a "hacktivist" net art see Joachim Blank http://www.irational.org/cern/Netart.txt

5 : See Jodi http://www.jodi.org/ ;

Jodi, OSS http://www.oss.jodi.org/ ;

Jodi, Error 404 http://404.jodi.org/ .

6 : See Mark Napier, Shredder et "About the Shredder" http://potatoland.org/%3CI%3EShredder%3C/I%3E/welcome.html .

See also the work of the London group IOD (Mathew Fuller, Colin Green and Simon Pope): a program to reconfigure information which enables the exploration and use of the Internet on a structural level. Webstalker http://bak.spc.org/iod/iod4.html.

7 : At the initiative of the group LAN, a mix of artists and design professionals. See TraceNoizer Disinformation on Demand http://www.<i>tracenoizer</I%3E.net/ .

8 : See Carnivore created by the RSG, an international collective of computer people and artists http://www.rhizome.org/carnivore.

9 : See Josh On de Futurefarmers, AntiWargame http://www.antiwargame.org/.

10 : See Heath Bunting http://www.irational.org/.

11 : See RTMARK http://www.rtmark.com/.

12 : See Pavu http://www.pavu.com/.

13 : See Etoy http://www.etoy.com/.

14 : Projects by Christophe Bruno : http://www.christophebruno.com/.

Human Browser, 2001-2006, (1st prize at the Share Festival, Turin - Jan 23-28, 2007)

et WIFI SM (Feel the Global pain), 2007. http://www.iterature.com/human-browser/fr/index.php - http://www.unbehagen.com/wifism-for-real.

For another example of subverting a web application Web (Flickr) see in this issue Mario Klingemann, Flickeur, UK, 2006 http://incubator.quasimondo.com/flash/flickeur.php.

15 : "In the art world, a work of art is called an "art piece". The word "piece" designates a thing that actually exists, but since software creations exist only as binary data, calling them an "art piece" seems wrong. Substituting "bit" for "piece," we have decided to call such a work an "art bit"."

Manifeste de l'exposition "art.bit collection", June 21 - August 11, 2002 @ ICC.

16 : See for exampleEldar Karhalev & Ivan Khimin, Screen Saver, 2001 http://runme.org/project/+screensaver/;

Radical Software Group (RSG), Carnivore, 2001 http://r-s-g.org/carnivore/;

Adrian Ward, Signwave, Auto-Illustrator / Autoshop, 2001-2002 http://www.auto-illustrator.com/;

Alex Mclean, forkbomb.pl, 2002 http://runme.org/project/+forkbomb/;

Amy Alexander, Scream, 2005 http://scream.deprogramming.us/;

17 : This concept came out of the pragmatic study of the forms of writing in interactive narrative systems at the conference "L'action sur l'image" at the Université de Paris 8, organised by Jean-Louis Weissberg.

18 : In a sense close to the computer concept of "heightened reality": a system that make sit possible to superimpose in real time the image of a virtual 3D or 2D model onto an image of reality, which can thus be manipulated.

19 : See also Jenni, JenniCam (archives) http://web.archive.org/web/*/http://jennicam.org;

Ana Clara Voog, Anacam http://www.anacam.com/;

Natacha Merritt, Digital Diaries http://www.digital-diaries.com/;

Agnès de Cayeux, In my Room http://inmyroom.arte-tv.com/.

20 : See Durieu & Birgé, Le ciel est bleu, 2002 http://www.lecielestbleu.com/;

Clauss & Birgé, Flying Puppet, 2001-2007 http://www.flyingpuppet.com/.

21 : See Grégory Chatonsky, Sur Terre http://www.arte.tv/sur-terre/; see also in this issue Peter Horvath, Triptych : Motion Stillness Resistance, Canada, 2006 http://www.6168.org/triptych/index.html#l.

22 : See Project Blinkenlights http://www.blinkenlights.de/arcade/index.en.html.

See also the projects of obx.lab http://obxlabs.hexagram.ca/index.php (Jason Lewis and his team) or the Graffiti Research Lab (GRL) http://graffitiresearchlab.com/.

23 : Douglas Edric Stanley, Concrescence http://homepage.mac.com/destanley/.Movies/concrescence_medium.mp4.

24 : Étienne Souriau (1956), « L'œuvre à faire », in Bulletin de la Société française de philosophie, February 25, 1956.

The executive language: Coding the future

Robert van Boeschoten

Making sense of Interactive Media project has a lot to do with the use of tools in the process of interaction. This is based on a relation between language and code. What are the embodied signifiers and how do we find our ideals for the future in it? By looking at the process of interaction between these two elements, this paper hopes to shed some light on the creation of value in interdisciplinary work by dealing with different perspectives.

ANOMALOUS OBJECTS AND PROCESSES

Bad Bits: Software and Incorporeal Events

Jussi Parikka

Is there a truth to software, networks and computers? If so, where is it located? This, of course, is the contested question of "cultural studies" where answers have ranged from an emphasis on "social issues", "politics", and "economic analysis" to for example a more hardcore materialist approaches proposed e.g. in German media-archaeology which has viewed the essence of such media being in time-critical processes – that is, non-spatial, non-representable and hence not graspable via representational analysis.[1] Depending on the person and the discourse, truth is posited in minds, agglomerations of minds, machines or ways of doing, so to speak. Yet, what is troubling is the danger of repeating essentialist habits. In this context, I like Wendy Chun's proposal to approach network media and its "truth" (so-to-speak) as distributed across scales and layers: across hardware, software, interface and extramedial representation, what Chun defines as "the representation of networked media in other media and/or its functioning in larger economic and political systems".[2] What we have here is a belief in the "truths" of relationships and continous translations, truth *in-transitu*, in transit.[3]

Addressing similar points, Manuel DeLanda warns against succumbing to social (or any other for that matter) essentialism in his recent *A New Philosophy of Society. Assemblage Theory and Social Complexity*. Arguing against the "truth" of social constructionism, DeLanda sees the danger in reifying general classificatory categories as constitutive. A prime example would be Aristotle's three-level hierarchy of the genus, the species and the individual.[4] The essentialist methods then tracks down the process how relations keep up the hierarchy of the essence. Necessary differences divide entities into their classes and subclasses, whereas accidental differences are secondary, attached to "individuals with proper names."[5]

DeLanda has made apt remarks how what he calls postmodern theories of social constructionism have been upkeeping classical forms of essentialism, where life is blown into matter not by God or platonic essences, but by the minds / aggregates of minds of social beings. According to DeLanda, this social essentialism as keenly upholds the idea that matter does not differentiate, is inert, and only minds are active.[6]

As an alternative, proposes DeLanda, we should turn to an assemblage approach to reality which is a radically temporal way to see elements discursive and non-discursive as

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[1] As for example Wolfgang Ernst argues, in digital media, we should focus more on the acts of counting (zählen) than narratives (erzählen), representations. In other words, mathematics determines the nature of digital media instead of human discourses and perceptions. See Ernst, "Dis / continuities. Does the Archive Become Metaphorical in Multi-Media Space?" In: *New Media, Old Media. A History and Theory Reader*. Edited by Wendy Hui Kyong Chun & Thomas Keenan. (New York & London: Routledge, 2006), 105–123.

[2] Wendy Hui Kyong Chun, *Control and Freedom. Power and Paranoia in the Age of Fiber Optics*. (Cambridge, MA: The MIT Press, 2006), 16. Chun following Katherine Hayles, proposes the need for medium specific criticism in order to arrive at such a mode of cultural analysis which does not reduce differences to paranoid narratives, but cultivates complexities.

3 Cf. William James, Essays in Radical Empiricism. (Mineola, New York: Dover Publications, 2003).

4 Manuel DeLanda, A New Philosophy of Society. Assemblage Theory and Social Complexity. London & New York: Continuum, 2006, 26.

5 Op cit., 27.

6 See Manuel DeLanda, "Deleuze, Diagrams, and the Open-Ended Becoming of the World." In: Becomings: Explorations in Time, Memory, and Futures, edited by Elisabeth Grosz. (Ithaca & London: Cornell University Press, 1999), 29–42.

stratified by historical processes – and where history refers not only to human history but also to cosmological and evolutionary processes. Assemblages are constellations of various scales, where entities are always "part of populations within which they constantly interact with one another."[7] Populations are constituted continuously of heterogeneous and homogeneous drives, processes and territories, something that has been noted also in more direct contact with media analysis, as with Alex Galloway's view of the *protocologics* of contemporary networks, or Matthew Fuller's media ecological take.[8]

Thus, we can also approach the truth of software and processes as one related to assemblages, and see how various *strategies* of essentialism are used and distributed across scales. Here, I want to approach the question of networks via its breaking points, how the points of accidents act as vehicles[9] we can use to question *how to approach*, more generally as well, *the complex nature of networks* – a field of tension between hardware, software, interface and transmedial representations. Such strategies and distributions pinpoint essences and truths of network processes, both by e.g. security discourses but also in "social explanations" of networks, software and digital culture.

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Technical essentialization in an Aristotelian manner is a recurring topos, where the essence of a socio-technological process is determined as belonging to a logic of software. Since the 1980s, this happened via a curious attention paid to self-reproducing processes, most often named as "viruses" which quite straight-forwardly banned specific software and network processes as "malicious." This was the result of the careful attention paid to defining what is a valid and legalized process in the emerging commercial computer platforms, and what was deemed as unauthorized malicious process. Via producing definitions, descriptions and formal definitions of "viruses", their three-part procedures of 1) attach a copy of the routine to a host program, 2) activate the trigger (e.g. after 50 boots), 3) payload of various nature (format the hard drive, play a tune. etc.) were essentialized as the core of the problem.

Yet, the technical software essentialization was intimately connected to various other spheres. At the interface level, the user was targeted with so-called "care of the self"-subjectification, a mode of discourse that aimed to guide and channel user behaviour to a more responsible mode. The image here [from Byte, January 1985] shows how human error is presented as a key form of computer accidents – even though not referring to malicious software, it resonates strongly with the more directly aimed advice of "how to keep your computer safe and clean" since the 1980s. Continuously we have a general, indirect discourse of the concerned voice who advices, suggests and worries over the misuse and mischief of software and computers.[10]

Image: "She's Temporary. The Damage is Permanent." Byte, January 1985

[7] DeLanda, *A New Philosophy*, 32.

[8] Galloway, Protocol. (Cambridge, MA: MIT Press, 2004). Fuller, *Media Ecologies*. (Cambridge, MA: MIT Press, 2005).

[9] Perhaps in the manner as Lawrence Grossberg has used the term.

[10] Cf. Deleuze and Guattari, A Thousand Plateaus. Transl. Brian Massumi. (Minneapolis: Univ. of Minnesota Press 1987), 79–80.

In addition, what resonates with Chun's point mentioned earlier, was the continuous translation of computer processes into audiovisual form. Despite the notion that computer processes happen continuously as a non-phenomenological strata of mathematical temporal processes that escape the perception of the slow-human mind, continuous strategies of slowing down this speed in terms of images and diagrams have visualized the computers and networks.

Adrian Mackenzie has argued in a very interesting vein that software code reached a new sphere of visibility around mid 1990s due to reasons varying from viruses to open-source projects like the GNU/Linux Operating System project, and for example the overinvested hopes crashed in the dot.com boom of early net years.[11] Yet, due to certain software and network processes baptized as "bad", a striking visibility occurred already a decade earlier. Malicious software had a face from early 1980s on. One classic example of pinpointing software as an issue of morality was the 1982 Disney production *Tron*[12], one of the early examples of breaking the visual sphere and diving into the digital image. Inside the computer, software is not much more than a will to power, a control of spatial processes, seems the movie suggest.

Clip: Tron (1982).

Indeed, software might be a Nietzschean will to power, but continuously baptized as evil, malicious or at times just dysfunctional since the 1980s. The material affects of software bends and changes computer processes, and as part of the assemblage of "malicious software", material processes of networks and computers were continuously also drawn into a politics of definition and incorporeal transformation which reflected the new importance paid to software and network processes. Various kinds of self-reproductive and metastable forms of network processes became turned into forms of "bad bits", unwanted software. During the 1980s, this meant the birth of "viruses" as a key category of malicious software, but included also a host of much further spanning procedures, which exemplified how software code is always embedded in larger assemblages. Material processes have their own duration that is not reducible to signification, but at the same time acts of order-words impose transformations in terms of categories, definitions and events. Here is the advantage of thinking in terms of incorporeal transformations. It acknowledges the reality of bodies

[11] Adrian Mackenzie, *Cutting Code. Software and Sociality*. (New York: Peter Lang, 2006).

[12] Another key cinematic example that raised networks, hacking and computers above a popular media threshold was *War Games*, from 1982. In computer virus / worm context, e.g. the Morris worm of 1988 acted as similar event that marked a new singularity in perception of "networks processes capable being bad." I have analyzed these in my *Digital Contagions: A Media Archaeology of Computer Viruses* (Peter Lang: New York, 2007).

very material, and that for example a crime is an action-passion of bodies interacting (whether the physical human bodies involved, or the bodies of institutions, bodies of property, etc.) but "crime", "accused", "convict" or even "vandal" are incorporeal attributes, order-words imposed on bodies.[13]

Deleuze and Guattari refer to the incorporeal transformation of an airplane (the plane-body) into a prison-body in a hijacking situation where the transformation is enacted by the "mass media act" as an order word. Similarly, software such as a computer virus has been turned in various assemblages of enunciation (such as mass media acts) into malicious software, a security problem but also a piece of net art, an artificial life project or also a potential beneficial utility program.

Thus, also the potential of change – bodies change, not always merely due to incorporeal statements, but order-words enact changes in perception. I want to end this presentation with another audiovisual example which illustrates the potentiality of change on various levels. Instead of a focus on truths and pinpointing essentials of for example network culture, software or malicious code, I suggest this analysis of assemblages as continuous translations between bodies and intervening order-words.

In the example, from a couple year back, 2001 D-I-N-A-festival in Bologna, media theorist, activist and artist Franco "Bifo" Berardi enacts a curious transformation of network virus into sonic art (in an aesthetic style of early 20th century Futurist poetics) by reciting the source code of the Loveletter virus. Where is the evil in this piece of software, or where is the truth of this algorithmic code become sonic vibrations become art performance?[14]

Clip: Bifo, 2001, DINA-conference.

Bifo enacts a transformation of malicious code into speech, where the human body becomes a very concrete echo of the supposedly in itself-non-phenomenological algorithmic event. The body becomes a virus, a phrase which sounds like from a 1980s science-fiction novel, or from 1990s cybertheory book following William Burroughs' ideas, but can be contextualized in a more concrete mode of network politics of the twenty first century. It functions as an incorporeal event where a network process becomes baptized into a new mode of being, a new translation, not a more truthful one but still an intervention into the way of understanding, for example, malicious software.

Hence, as a summary, two things: 1) Truth of networks and computers is more akin to assemblage and (continuous potential of) translation;

2) and, for example, software becomes malicious only via intervening order-words – and can again deterritorialize into new modes of being via alternative events. In other words, changes can be addressed on various levels instead of pertaining to an essentialist understanding of media and an ensuing notion that change necessarily happens on the same level; instead, both issues incorporeal (summoning events, singularities and order-words) and corporeal (more bracketed in the context of this paper) can address the in-transitness inherent in network media.

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[13] *A Thousand Plateaus*, 80–81.

[14] Matthew Fuller and Andy Goffey set the agenda for an "evil media studies" in their contribution to *The Spam Book: On Viruses, Spam, and Other Anomalies from the Dark Side of Digital Culture,* edited by Jussi Parikka and Tony Sampson. Forthcoming approx. 2008. Hampton Press.

Viral Evolution and the New Software Ecology

John Johnston

In the early 1990s the biologist Tom Ray demonstrated that evolution by natural selection had occurred in Tierra, a virtual world in which small blocks of code replicate in a self-enclosed virtual machine running on his computer. Random mutations in these digital organisms yielded multiple variants, among them not only better replicators than hand-coding could produce but a whole interactive ecology of replicators, parasites and symbionts. As the digital organisms changed and evolved in response to one another, the digital universe in which they interacted (the fitness landscape) grew in complexity, as a result of those very interactions.

This milestone was followed by many similar successes in the new science of Artificial Life. Andrew Pargellis, on a similar ALife platform he called Amoeba, was even able to bring about the spontaneous generation of self-replicating digital organisms, thus going one step further than Ray, whose program had to be initiated with a seed creature. However, in 1997 two other ALife scientists, Mark Bedau and Norman Packard, developed a quantitative method to compare evolutionary activity in artificial evolving systems with evolutionary activity in the biosphere. Not surprisingly, these measurements pointed to apparently inherent limits to such artificial, self-enclosed systems. Meanwhile, perhaps intuiting these limits, Ray had created an Internet version of Tierra, with nomadic organisms that would seek out machines on the network with idling processors, among which they could "live" in an ever-shifting, dynamic niche and evolve into what Ray called "wild software." This short history of ALife will be considered within a larger frame defined by the Internet as an open environment, and specifically by ALife's shadowy and antagonist relationship to computer viruses and their theorization (by Fred Cohen, Mark Ludwig, et al.), as well as attempts by David Ackley and Stephanie Forrest to construct a computer immune system. These activities stand in stark contrast to the development of commercial software, which posits a static and controlled environment requiring only proprietary agreements (i.e. laws) and periodic updates. Commercial anti-viral software is based on a library of pattern detectors that is constantly supplemented, but never grows or evolves from within. However, the forces driving complex software environments like the Internet are not really susceptible to such brittle and mechanistic attempts at control, which only foment software "arms races," with viruses and parasites breeding and mutating in its interstices. As physicists such as Albert-Laszlo Barabasi have shown, the Internet itself is actually a dynamic "small worlds" network, growing like a quasi-organic structure. In the complex software ecology it sustains, emergent Artificial life forms and adaptive software agents become not only more likely but necessary. But here we encounter the limits of a contradiction between capitalist efforts to establish complete control over an artificial ecosystem and the inherent tendency of such a system to increase its own autonomy. This contradiction, in turn, may serve as a figure for how the human environment is increasingly caught up in a new kind of transformation, a bio-machinic becoming in which a self-determined and self-generating technology continues natural evolution by other means.

On Anomalous Objects of Digital Culture: An Introduction

Jussi Parikka & Tony Sampson

The paper is also an introductory chapter for The Spam Book: On Viruses, Spam, and Other Anomalies from the Dark Side of Digital Culture *Jussi Parikka & Tony Sampson (eds) Cresskill: Hampton Press (forthcoming).*

In the classic 1970s Monty Python sketch, a couple enter, or rather, in typical Pythonesque mode, descend upon a British cafe and are informed by the waitress that SPAM is on the menu.

> There's egg and bacon; egg sausage and bacon; egg and spam; egg bacon and spam; egg bacon sausage and spam; spam bacon sausage and spam; spam egg spam spam bacon and spam; spam sausage spam spam bacon spam tomato and spam.

The joke, of course, refers to SPAM, the canned food substance that originated in the 1930s in the US, but was famously imported into Britain during the Second World War.1 SPAM (spiced ham) became a cheap supplement for pure meat products, which were in severe shortage during the conflict. Perhaps the cheapness and mass consumption of SPAM during the period are among the reasons why it became the butt of many music hall jokes. Indeed, following the music hall tradition SPAM becomes central to the Python's often nonsensical sketch as it quickly deterritoralizes from the more obvious context of the waitress/customer discussion to a full Viking chorus of spam, spam, spam…

> Spam, spam, spam, spam. Lovely spam! Wonderful spaaam! Lovely spam! Wonderful spam. Spa-a-a-a-a-a-a-am! Spa-a-a-a-a-a-a-am! Spa-a-a-a-a-a-a-am! Spa-a-a-a-a-a-a-am! Lovely spam! (Lovely spam!) Lovely spam! (Lovely spam!) Lovely spaaam! Spam, spam, spam, spaaaaam!

The joke's intention, as Monty Python jokes in general tend to do, is to get us to laugh at a major concern of contemporary communications: communication breakdown.2 The habitual repetition of everyday events quickly turns into a chaotic mess and a turbulent example of non-communication. The familiar communication channels of this archetypal British working class cafe are suddenly flooded with intruding thirds, a noise that fills the acoustic space with a typically meaningless Python refrain: spam, spam, spam. In this sense (or nonsense), the sketch manages to parody the meaninglessness intrinsic to any meaningful act of communication by increasing the level of environmental noise that accompanies the process of sending messages. In fact, the invading Viking horde (perhaps a veiled reference to the US troops stationed in Britain during WW2) eventually drowns out, or "spams", the on-going conversation between the waitress and the customers, transforming the chaotic scene into a closing title sequence filled with more references to spam, spam, spam…

Over thirty years later, and the analogy made between Python's sketch and the unsolicited sending of bulk email has provided new impetus to the word spam. Perhaps for many of us digital spam is less funny. For those of us increasingly reliant upon email networks in our everyday social interaction, spam can be a pain; it can annoy; it can deceive; it can overload. Yet spam can also entertain and perplex us. For example, how many of you have

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[1] The SPAM trademark (in uppercase) belongs to Hormel Foods (http://www.spam.com) who imported the product into Britain as part of the Lease-Lend Act (1941) which enabled the US to sell, transfer, exchange and lend products to their allies during WW2. SPAM is still widely available today to those with a discerning taste in a 'luncheon meat' alternative to ham.

[2] See also the *Sermon on the Hill* sketch in the film *The Life of Brian* in which the misinterpretation of one-to-many communication leads to a broken nose and the *Argument Sketch* in which the principles of logical argumentation are 'argued' about, without resolution.

recently received an email from "a Nigerian Frind" (sic) or a Russian lady looking for a relationship? Has your inbox overflowed with the daily announcements of lottery prizes and cut price Viagra? Perhaps you have experienced this type of Dadaist message, which appears at the zero degree of language.

> Dehasque Little Bergmann Dewald Murray Eriksson Tripathy Gloo Janusauskas Nikam
> Lozanogmjpkjjpjrfpklkijnjkjflpkqkrfijmjgkkjkgrkkksgpjmkqjmkggujfkrkpktkmmmjnjogjkhkhknjpgghl
> hnkofjgpgngfgrgpkpgufifggmgmgugkirfsftkgtotutmumpptituuppmqqpgpjpkqqquqkuqqiqtqhqnoppqp
> ruiqmqgnkokrrnknslsifhtimiliumgghttfpfnfsfnfmfttflfrfjhqgrgsjfflgtgjflksghgrrgornhnpofsjoknoofoio
> plrlnlrjimjmkhnltlllrmthklpljpuuhtruhupuhujqfuirorsrnrhrprtrotmsnsonjrhrhrnspngslsnknfkfofig
> ogpkpgfgsgqfsgmg
> tiqfrfskfgltttjulpsthtrmkhnilhrhjlnhsisiriohjhfhrftiuhfmuiqisighg
> mnigignjsorgstsssllolsksiskrnrnsfspptngqhqitpprpnphqrtmprph.[3]

Generally speaking though, spam arouses a whole panorama of negative and bemused emotions, in much the same way as computer viruses, worms and the uninvited excesses of net porn often do. In fact, we might collectively term these examples as *digital pollution* and identify them as a major downside (or setback) to a communication revolution that promised to be noiseless and friction-free.[4] In this context, they appear to us as *anomalies*. Nevertheless, despite the glut of security advice - a lot of which is spuriously delivered to our email inboxes, simply adding to the spam - little attention has been paid to the cultural implications of these anomalous objects and processes by those of us engaged in media and communication studies, and particularly studies linked to digital network culture. Perhaps we have been too busy dealing with the practical problem and have failed to ask questions of anomalies in themselves.[5] The innovation of this edited collection is to answer these questions by considering the role of the anomaly in a number of contexts related to digital communication and network culture. However intrusive and objectionable, we argue that the digital anomaly has become central to important analytical questions concerning contemporary communication theory. Along these lines, we begin this book by asking *in what sense are these objects anomalous?*

If we constrain ourselves to the dictionary definition of the anomalous, as the *unequal*, *unconformable*, *dissimilar*, and *incongruous,* in other words, something that deviates from the rule and demonstrates irregular and abnormal behaviour or patterns,[6] then arguably our question becomes problematised by everyday experiences of network culture. To be sure, spam, viruses, worms and net porn are not irregular or abnormal in this sense. This *junk* fills up the material channels of the Net, transforming our communications experiences on a daily or even hourly basis. For example, according to recent moderate sources, 40% of e-mail traffic is spam, meaning some 12.4 billion spam mails are being sent daily.[7] Similarly, in an experiment using a 'honeypot' computer as a forensic tool for 'tracking down hi-tech crime', a team from the BBC in the UK recently logged, on average, 1 attack per hour that could render an unprotected machine 'unusable or turn it into a [zombie] platform for attacking other PCs'.[8] It is therefore not surprising that many network users fear everyday malicious Internet crime more than they do burglary, mugging or car theft.[9] Indeed, within

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[3] A warm thank you to Juri Nummelin for this example. Nummelin has collaged his own cut-and-paste-Spam-Poetry from such unsolicited messages. See The Nokturno-poetry website, http://www.nokturno.org/juri/juri nummelin corporation near class.pdf (accessed February 6, 2007).

[4] Bill Gates, *The Road Ahead*. (London: Penguin, 1996).

[5] Susanna Paasonen's chapter in this book is interesting in this respect. She responds to the glut of porn spam that entered her university inbox. A problem that many of us have to deal with, together with discovering the limitations of spam filter programs, downloading free ad-blockers and searching for the cheapest way to set up an antivirus program or firewall.

[6] According to the Oxford English Dictionary

[7] See Don Evett, "Spam Statistics 2006." http://spam-filter-review.toptenreviews.com/spam-statistics.html (accessed 24 May, 2007).

[8] Over a seven day period the honeypot computer experienced 36 warnings that pop-up via Windows Messenger, 11 separate visits by Blaster worm, 3 separate attacks by Slammer worm, 1 attack aimed at Microsoft IIS Server and 2-3 "port scans" seeking weak spots in Windows software. See "Tracking Down Hi-tech Crime." BBC News, http://news.bbc.co.uk/go/pr/fr/-/1/hi/technology/5414502.stm. Published: 2006/10/08 23:12:09 GMT (accessed 24 May 2007)

[9] This is the conclusion of market research carried out for the Get Safe Online, a joint initiative between the British Government, the Serious Organized Crime Agency (SOCA), British Telecom, eBay.co.uk, HSBC, Microsoft and SecureTrading,

the composite mixture of the everyday and the anomalous event, the fixed notion that the normal is opposed to the abnormal is increasingly difficult to reconcile.

It is from this cultural perspective that we approach the network anomaly, arguing that the unwelcome volume of anomalous traffic informs multiple articulations concerning the definition of the Internet and how the network space is becoming transformed as a means of communication. For example, in the late 1990s network culture was very much defined in terms of the economic potential of digital objects and tools, but recently the dominant discourse has tilted towards describing a space seemingly *contaminated* by digital waste products, dirt, unwanted and illicit objects.[10] There are, indeed, a number of ways in which anomalies feedback into the expressive and material components of the assemblages that constitute network culture. On the one hand, network security businesses have established themselves in the very fabric of the digital economy (waste management is the future business model of late-modernity). The discourses formed around these billion dollar security industry, ever more dependent upon anomalies for its economic sustenance, lay claim to the frontline defence of network culture against the hacker, the virus writer and the spammer, but they also shape the experiences of the network user. On the other hand, analysis of the build up of polluted traffic means that evaluations are made, data is translated into prediction models, and future projects, such as Internet 2.0 and other "spam and virus free" networks, are proposed as probable solutions to the security problems facing online businesses and consumers. In other words, anomalies are continuously processed and re-channeled back into the everyday of network culture. Whether they are seen as novel business opportunities or playing the part of the unwanted in the emerging political scenarios of network futures, anomalous objects, far from being abnormal, are constantly made use of in a variety of contexts, across numerous scales. Therefore, our aim in this introductory chapter is to primarily address the question concerning anomalies by seeking conceptual, analytic and synthetic pathways out of the binary impasse between the normal vs. the abnormal.

Additionally, along with most of the contributors in this book, we are using this collection to mark a shift away from a solely representational analysis (the mainstay of media and cultural studies approach to communication). Our aim is to steer clear of the categorization of anomalies according to resemblances, identities, oppositions and metaphorical analogies; categories, which in them self reinforce the production of further binarisms.[11] For that reason, we have attempted to avoid the frequent desire to conjure up the essence of the digital anomaly from a space considered somehow *outside* of network culture—a space populated by *Others*, out-of-control Promethean monsters, digital pathogens and defended by metaphorical immune systems.[12] In this sense, the reference to

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[10] See for example "Attack of the Bots." *Wired* 14.11. (November 2006), http://www.wired.com/wired/archive/14.11/botnet.html (last accessed April 12, 2007). Of course, the discourse of digital waste and malicious code originates from the mid-1980s already. See Jussi Parikka, *Digital Contagions. A Media Archaeology of Computer Viruses*. (New York: Peter Lang, 2007).

[11] The trouble with most accounts relying conceptually on analogies, metaphorics and resemblances is that they implicitly posit a prefabricated grid on which the terms identified move. Judging a computer virus as a metaphor of a biological virus easily merely reproduces the terms and does not provide any novel information of the intensive capacities of for example the specific class of software programs of viral programs. Hence, our desire to avoid metaphorics as a basis of analysis is connected to the wish to focus "less on a formation's present state conceived as a synchronic structure than on the vectors of potential transformation it envelops", to use Brian Massumi's words. Massumi. *A User's Guide to Capitalism and Schizophrenia. Deviations from Deleuze and Guattari*. (Cambridge, MA: The MIT Press, 1992), 120. See all Gilles Deleuze's critique of the four shackles of mediated representation in *Difference and Repetition* (London and New York: Continuum, 1997) 29

[12] For example, Lupton (in Bell and Kennedy (eds) *The Cybercultures Reader*. London: Routledge, 2000), argues that the computer virus becomes a manifestation of 'the barely submerged emotions of hostility and fear that humans have towards computer technology'. Similarly, in Flanagan's 2001 *Culture Machine* article, *Spatialized MagnoMemories* we are introduced to a 'politics of computing' in which we engage in 'a struggle over personal identity, knowing our machine can turn on us, selling our browsing habits or address books.' We are, as Flanagan puts it, betwixt 'the natural, organic virus and the unnatural virus of the machine; between the unintentional "natural" causes of viruses to the malevolent and intentional, between ideas of the uncontrolled and the controlled.' Again, Cubitt (in Dovey (ed) 1996 pp 31-58) claims that we were once fearful of the 'mad' autonomous computer running away with our language, but in the new culture of the body, 'our fears are of the invasive: the hacker… and the virus.' A fear underlined by the growing autonomy of these digital creatures - 'mutations spontaneously generated within the system, a system which is, from this perspective, in the process of achieving its autonomy from its users and from humans purposes'. By drawing upon the example of the *Love Bug* computer virus Sim's

the *dark side of digital culture* in the subtitle of this book is more closely allied to our understanding of the darkness surrounding this type of representational analysis rather than the darkness of the object in itself. We intend to address this lack of light (or lack of analysis) by considering a conceptual approach that is more fluid, precise and inventive in terms of a response to the question of the anomaly. It is designed to grasp the liminal categories and understand the materiality and paradoxical inherency of these weird "objects" and processes from theoretical and political points of view.

We do nevertheless recognize that on a material and representational level, spam and other anomalies do have effects. But in this collection we acknowledge the problems inherent to the deployment of a media theory based exclusively on effect.[13] To be sure, in the past, this is how media anomalies such as violence and porn have been treated—the effects of which were considered to *cultivate* an audience's sense of reality.[14] Perhaps our approach is more Monty Python than George Gerbner, in as much as we are less interested in the causality afforded to the impression of media *meanings* than we are in the *process of communication* in itself. Yet, this does not indicate a return to the transmission model so prevalent in early communication theory, wherein the establishment of communicative fidelity between sender A and recipient B, in the midst of signal noise, is the basic setting. On the contrary, instead of the linear channeling of messages and the analysis of effects, one might say that this book is concerned with *affect* and *ethology*: how various assemblages of bodies (whether technological, biological, political or representational) are composed in interaction with each other and how they are defined, not by forms and functions, but by their capabilities or casual capacities. In other words, we are interested in how one assemblage may affect another.[15] We will, later on, refer to this approach as *topological* since we argue that it releases us from the analytical dichotomy between causal (fatal) effects and complete indeterminism, and allows us to consider a co-causal, intermediate set of determinisms and non-linear bodies. Importantly, in this analytical mode, we are not seeking out the *essence* of the anomaly (whether expressed in terms of intrinsic technical mechanisms or as a representational category), but instead a process in a larger web of connections, singularities and transformations. Therefore, our question positions the anomaly in the topological fabric of an assemblage from where new questions emerge. For example, how do operating systems and software function in the production of anomalous objects? In what kind of material networks do such processes interact? How are certain software processes and objects translated into criminal acts, such as vandalism, infringement and trespass?[16] We will now elaborate upon this theoretical position from a historical perspective, before addressing the questions of affects, topology and anomalous objects.

Media Anomalies: Historical Context

Analysis of media in terms of the anomaly is nothing new. There are, in fact, many approaches that implicitly or explicitly address anomalous media. A number of well-known approaches that should be familiar to the media and communication field, including

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(2001 pp. 18-20) *inhuman* virus is equally engaged in a 'deliberate [social] blurring of the lines between human beings and machines' (p. 15). He argues that we have, to some extent, ceded autonomy to our computer systems. Indeed, the virulent impact of the '*love bug*' virus denotes to Sim a 'battle for control of cyberspace' (p. 20) between the human and the intelligent machine.

[13] For example see David Gauntlet's article *Ten Things Wrong with Effects Theory* http://www.theory.org.uk/david/effects.htm (accessed April 2007)

[14] Gerbner's cultivation theory for example

[15] Gilles Deleuze, *Spinoza: Practical Philosophy*. Transl. Robert Hurley. (San Franciso: City Lights Books, 1988). Causal capacity is a term used by DeLanda to describe how one assemblage might affect another. See Manuel DeLanda, *A New Philosophy of Society: Assemblage Theory and Social Complexity* (London, New York: Continuum, 2006) p. 38

[16] Our approach has affinities with what has been termed "abstract materialism" (Parisi), neo-materialism (DeLanda) and even the analysis of actor networks (Latour), and we will borrow freely from the various thinkers who have explicated the potential of analysing cultural bodies in terms of the interconnectness of material and expressive networks. See Luciana Parisi, *Abstract Sex. Philosophy, Bio-Technology and the Mutations of Desire*. (London: Continuum, 2004). See for example Manuel DeLanda, Manuel DeLanda, "Immanence & Transcendence in the Genesis of Form." South Atlantic Quarterly, Vol 96, No 3, Summer 1997. Also in: *A Deleuzian Century?*, edited by Ian Buchanan. (Durham: Duke University Press, 1999), 499-514. Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network Theory*. (Oxford: Oxford University Press, 2005).

the Frankfurt School and the media-ecological writings of the Toronto School (including Neil Postman), have regarded (mass) media in itself as an anomaly. Of course, these approaches do not concern a strict deviation from the norm or events *outside of a series*, as such. Instead, the dangerous anomality of mass media has long been regarded as a function of the homogenizing powers of popular media. The repetitious standardization of media content is seen as a result of the awesome, ideological capitalist-state apparatus, which applies the logic of the factory assembly line to the production of cultural artefacts. For the Frankfurt School, particularly Adorno and Horkheimer, analysis of mass media revealed a system of consumer production in conflict with the enlightenment project via mass ideological deception.[17] Much later, Postman would continue along similar lines by conceptualizing the modern mass media, especially television, as a kind of a filter that hinders public discourse by allowing only programs and other "objects" with entertainment value to pass through communication channels.[18] As an index of this dystopic understanding of mass media, some years later the former Pink Floyd songwriter Roger Waters transposed these *weapons of mass distraction* and apocalyptic visions of Western media culture into his conceptual album *Amused to Death* (1992), where the TV sucks in all human emotion while the human species amuses itself to death watching Melrose Place, the Persian Gulf War and copious amounts of porn. Indeed, in this way the media machine is treated as a monstrous anomaly, and significantly, a totality rather than a singularity.

In a historical context, the shock of the 'new' media seems to have always occupied a similar polemical space as the one that obsessed the conservative approaches of media effects theorists, like Gerbner. The anomalies of the new media are most often surrounded by moral panics. Such panics, whether around cinema, television, video, computer games or the Internet, with its malicious dark side, populated by perverts lurking around every virtual corner, can perhaps be seen as an attempt to contextualize new media in existing social conventions and habits of the everyday. The media panics surrounding the Internet, for example, have highlighted the contradiction between the ideals of a reinvigorated public sphere—an electronic agora for scientists, academics, politicians and the rest of civil society—and the reality of a network overflowing with pornography, scams, political manipulation, piracy, chat room racists, bigots and bullies. In recent years we have seen how the Internet has been transformed from a utopian object into a problematic modulator of behaviour, including addiction, paedophilia and illicit downloading. It has become an object for censorship – necessitating the weeding out of unpleasant and distasteful content, but also the filtering of politically sensitive and unwanted exchange.[19]

The emergence of inconsistencies and deviations in media history has led Lisa Gitelman to argue that we should "turn to the anomaly" and concentrate on the patterns of dissonance that form when new media encounter old practices. For Gitelman, "transgressions and anomalies [...] always imply the norm and therefore urge us to take it into account as well."[20] Therefore, anomalies become a tool of the cultural analyst, enabling him/her to dig into the essential, so to speak. They can be imagined as vehicles taking us along the lines of a logic that delineates the boundaries between the normal and the abnormal. But in our view such approaches do not dig deeply enough into the logical mode of the anomaly since there is always a danger that such a representational analysis will continue to treat it as an excluded partner (*Other*) who haunts the normalized procedures of the *Same*.

Alternatively, we argue that network culture presents us with a new class of anomalous software object and process, which cannot be solely reduced to, for example, a human

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[17] Theodor W. Adorno, *The Culture Industry. Selected Essays on Mass Culture*. (London & New York: Routledge, 2002).

[18] Neil Postman, *Amusing Ourselves to Death*. (New York: Viking, 1985).

[19] See "New Media Panics." M/Cyclopedia of New Media. http://wiki.media-culture.org.au/index.php/New_Media_Panics (Accessed January 9, 2007). See also Rogers' and Elmer's chapters on censorship in this book.

[20] Lisa Gitelman, *Always Already New. Media, History, and the Data of Culture*. (Cambridge, MA: MIT Press, 2006), 130-131.

determined representation of the capitalist mode of consumerism.[21] The examples given in this collection—*contagious software*, *bad objects*, *porn exchange* and modes of *network censorship*—may well derive some benefit from representational analysis (particularly in the context of porn and spam e-mail content),[22] but our anomalies are not simply understood as irregular in the sense that their content is *outside of a series*. On the contrary, they are understood in terms of the materialities and expressivities of a wider assemblage of topological relations. The content of a porn site[23], a spam email or a computer virus, for instance, may *represent* aspects of the capitalist mode of production, but these programs also express a materiality, or a logic of action, which has been, in our opinion, much neglected in the media and communication field. This is a logical line in which automated *excessive multiple posting*, viral replication and system hijacking are not necessarily indices of a dysfunctional relation with the state machine, but are rather capacities of the symbiotic production of software code. When we combine this code capacity with the dynamics of the sociotechnical network assemblage, in its entire broadband spectrum, we experience systems that transfer massive amounts of porn, spam and viral infection. Such capacity, which in our view exceeds the crude distinction between normal and abnormal, becomes a crucial part of the expressive and material distribution of network culture. Porn, spam and viruses are not merely representational; they are also component parts of a sociotechnical-logical praxis. For us, they are a way of tapping into and thinking through the advanced capitalist mode in the context of the network.

We therefore suggest that the capacity of the network topology intimately connects us to a post-Fordist mode of immaterial labour and knowledge production. We do not however prescribe to a strictly defined cybernetic or homeostatic model of capitalist control (a point explained in more detail below), which is designed to patch up the nonlinear flows deemed dangerous (like contagions) to the network. On the contrary, our conception of capitalism is a machine that taps into the creative modulations and variations of topological functioning.[24] It is easy at this point to see how our vision of the media machine no longer pertains to the anomalous totality described by the Frankfurt and Toronto Schools. Like Wendy Chun, we see this machine as an alternative to the poverty of an analysis of the contemporary media sphere as continuously articulated between the polarity of narratives of total paranoid surveillance and the total freedom of digitopia. Therefore, following Chun, in order to provide a more accurate account of the capacities of media technologies as cultural constellations, this books looks to address networked media on various, simultaneously overlapping scales or layers: hardware, software, interface and extramedial representation ("the representation of networked media in other media and/or its functioning in larger economic and political systems").[25]

We now move on to explore the topological approach in more detail, proposing that it can do more than simply counter representational reductionism. Firstly, we specify how it can respond to the fault lines of essentialism. Then we use it to readdress a mode of functionalism that has pervaded the treatment of the anomaly from Durkheim to cyberpunk.

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[21] In addition, most of the cultural analysis on for example porn focuses on (human) bodily interactions, representations, identity, etc. See for instance Dennis D. Waskul (ed.), *Net.seXXX. Readings on Sex, Pornography, and the Internet.* (New York: Peter Lang, 2004).

[22] For example, capitalist desire in spam e-mail provides us with key insights into the organization of representational content in mass media, where they also negotiate gender roles and sexualities.

[23] See the contributions by Paasonen and Jacobs in this book.

[24] Parisi, *Abstract Sex.*, 134. Jussi Parikka, "Contagion and Repetition – On the Viral Logic of Network Culture." *Ephemera – Theory & Politics in Organization.* Http://www.ephemeraweb.org/. Forthcoming 2007. The theme of metastability stems largely from Gilbert Simondon. Simondon analyzed metastable systems in terms of individuation and change. In his *Du mode d´existence des object techniques* Simondon argued against the fashion of seeing technical objects as self-contained, and proposed to read them in terms of milieus and potential becomings. Also technical objects and systems can be metastable and open to future fluctuations.

[25] Wendy Hui Kyong Chun, *Control and Freedom. Power and Paranoia in the Age of Fiber Optics.* (Cambridge, MA: The MIT Press, 2006), 16. Chun following Katherine Hayles, proposes the need for medium specific criticism in order to arrive at such a mode of cultural analysis which does not reduce differences to paranoid narratives, but cultivates complexities.

Topological Thinking: The Role of the Unessential

In order to further illuminate our question concerning the anomalies of contemporary communication, let us return to the Monty Python sketch for further inspiration and a way in which we might clearly distinguish between a prevalent mode of essentialism and our topological approach. Following strictly essentialist terms we might define Python's cafe by way of the location of the *most important* and familiar communication codes;[26] looking for the effective functioning of communication norms. In this mode, we would then interpret the "spamming" of the cafe as an oppositional function, setting up certain *disparate* relations between, on the one hand, a series of perfected communication norms, and on the other hand, the imperfection of our anomaly. Yet, arguably, the Python sketch does more than establish dialectical relations between what is *in* and what is *outside a series*. Instead, Python's comedy tactic introduces a wider network of reference, which unshackles the unessential, enabling the sketch to breach the codes of a closed communication channel, introducing fragments of an altogether different code. Thus, in the novel sense of topological thinking, the British cafe becomes exposed to the transformational force of spontaneous events rather than the static essences or signs of identity politics.

In a way, Monty Python suggests an anti-Aristotelian move. Their linking of disparate relations contrasts with Aristotle's *primary substance*, which exists by the mere force of its own being, and is the singular source of everything (its essential property). Indeed, Aristotle's primary and definitive force exists in a hierarchical relation to an unessential subspecies of properties, including accidental properties.[27] In relation to substances, these Aristotelian accidents are quite literally *accidental*. They are qualities, quantities, relations, spatio-temporal coordinates, and so forth, that do not have being in themselves, but exist only through their relation to the essence of the primary substance. They are, in the Aristotelian order of things, but flickerings on the surface of being.

Central to our reconceptualisation of the communication process is the rejection of this crude distinction made between the *essence* and the *accidental,* or the essentialist's habit of sorting the wheat from the chaff. Instead, our alternative viewpoint adopts a Pythonesque reversal of Aristotelianism in which even the most unessential accident is considered as a concrete event of network culture. These events can therefore be raised to a new plateau wherein the coordinates of relations, processes, material and expressive interactions, affects and sensations foreground the notion of primary substance. To analyze the material reality of anomalous objects, we must disengage from a perspective that sees the presumed friction-free state of networking, the ideal non-erring calculation machine or a community of rational individuals using technologies primarily for enlightenment as more important than the anomaly (spam, viruses and porn merely regarded as secondary deviations.) Indeed, in our view, accidents are not simply sporadic breakdowns in cultural identity, but express the topological features of the social and cultural usage of media technologies. In this context, we concur with Tiziana Terranova,[28] who discusses network dynamics as not simply a '*space of passage* for information', but a milieu that exceeds the mechanism of established communication theory (senders, channels and receivers). The surplus production of information comprises a turbulent mixture of mass distribution, contagion, scams, porn, piracy etc. The metastability of these multiple communication events are not merely occurrences hindering the essence of the sender/receiver relation, which generally aims to suppress, divide or filter out disparities altogether, but are

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[26] Similarly, semioticians would want to match up these familiar codes in relation to a *sign system* in an attempt to represent the cafe in terms of a cultural identity.

[27] In *Categories*, Aristotle writes: "Everything except primary substances is either predicable of a primary substance or present in a primary substance. This becomes evident by reference to particular instances which occur. 'Animal' is predicated of the species 'man', therefore of the individual man, for if there were no individual man of whom it could be predicated, it could not be predicated of the species 'man' at all. Again, colour is present in body, therefore in individual bodies, for if there were no individual body in which it was present, it could not be present in body at all. Thus everything except primary substances is either predicated of primary substances, or is present in them, and if these last did not exist, it would be impossible for anything else to exist." Aristotle, *Categories*. Transl. E.M.Edghill. Section I, Part 5. <http://www.classicallibrary.org/Aristotle/categories/1.htm#5>.

[28] Tiziana Terranova, Network Culture. Politics for the information Age (London: Pluto, 2004), 67–68.

instead events of the network topology in itself. The challenge then, is not to do away with such metastabilities, but to look at them in terms of an emergent series and experience them as the *opening up* of a closed communication system to environmental exteriority and the potentialities that arise from that condition. A condition we can refer to as the unessential of network culture.

The Topological Space of "Bad" Objects

> If all things have followed from the necessity of the most perfect nature of God, how is it that so many imperfections have arisen in nature – corruption, for instance, of things till they stink; deformity, exciting disgust; confusion, evil, crime, etc.? But, as I have just observed, all this is easily answered. For the perfection of things is to be judged by their nature and power alone; nor are they more or less perfect because they delight or offend the human senses, or because they are beneficial or prejudicial to human nature.[29]

We have thus far argued that the anomaly is best understood in terms of its location in the topological dynamics of network culture. In this context, we further suggest that the anomaly is not best grasped from a predefined position *outside* of an existing *unity*, as is typical of any approach grounded in Euclidean geometry. On the contrary, from a topological perspective it is the local interactions the surface of the network space encounters that become the focal point of analysis. A topological space, or assemblage, is not qualified by opposing spaces, but by the potentialities and constraints an assemblage encounters in neighbouring spaces. In other words, the singularities of a space mark out the phases and potentials of its path and objects under analysis are no longer studied within a coordinated grid of explanation, but rather in terms of what Delanda refers to as a "relation of exteriority".[30] In this non-Euclidian space (exemplified in the mathematics of Riemannian spaces, as well as the philosophies of Spinoza, Deleuze and Guattari, and other ethological approaches) objects are not subordinated to the totality of spatial unity, or for that matter transcendental judgment. Significantly, in this new context then, anomalies are not, as Spinoza realised, judged by the "presumed imperfections of nature", (nature representing a unity, as such), but instead they are judged by "their nature and power alone". In other words, it matters not if objects "delight or offend the human senses". Particular "things" and processes are not to be judged from an outside vantage point or exposed to "good" or "bad" valuations. Instead, the ethological turn proposes to merely look at the potential of objects and ask how they are capable of expression and making connections.

In this way the shift towards topological analysis becomes parallel to a perspective that claims to be "beyond good and evil" and instead focuses on the forces constituent of such moral judgments. This marks the approach out as very different from the historical tradition of social theory, particularly the early response of organic functionalists to the good and bad of social events. For example, Durkheim was perhaps the first social scientist to show how anomie played an important part in social formations, but he negated the productive capacities we have pointed to in favour of describing the anomaly as a state of social breakdown. For Durkheim, the ultimate anomalous social act—suicide—stemmed from a sense of a lack of belonging and a feeling of remoteness from the norm. Anomaly as a social phenomenon therefore referred to a deprivation of norms and standards. While suicide was positively disregarded as an act of evil, it did however signal a rupture in the organics of society, an abnormality, a falling out of series, as such.[31] Indeed, his statistical container-model of macro society—much appreciated by the society builders of nineteenth century Europe—judged social phenomena against the average, the essential and the organic unity of social functionalism. This of course ruled out seeing anomalies as social phenomena with their own modes of operation and co-causal capacity to affect.

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[29] Benedict Spinoza, *Ethics*. Transl. W.H. White, revised by A.H.Stirling. (Hertfordshire: Wordsworth, 2001), 41 (I part, Appendix).

[30] Manuel DeLanda, *A New Philosophy of Society: Assemblage Theory and Social Complexity* (London, New York: Continuum, 2006), 10-12

[31] Emile Durkheim, *Suicide. A Study in Sociology*. Transl. John A. Spaulding & George Simpson. (London: Routledge, 2002). See Dougal Phillips' chapter in this book.

The Euclidean conceptualization of social spaces has been roundly challenged by Baudrillard's notion of the perverse logic of the anomaly.[32] Writing mainly about another bad object, drugs, Baudrillard argues that the anomaly become a component part of the logic of over-organisation in modern societies.

> In such systems this is not the result of society's inability to integrate its marginal phenomena; on the contrary, it stems from an overcapacity for integration and standardization. When this happens, societies which seem all-powerful are destabilized from within, with serious consequences, for the more efforts the system makes to organize itself in order to get rid of its anomalies, the further it will take its logic of over-organization, and the more it will nourish the outgrowth of those anomalies.[33]

Beyond the law-abiding notion of Durkheim's anomie Baudrillard therefore proposes to consider contemporary phenomena (the writing stems from 1987) as labeled by *excess*—a mode of hyperrational anomaly. He argues that the modern emphasis placed on control management has itself spurred on these excesses of standardization and rationality. The strange malfunctions become the norm, or more accurately, they overturn the logic of thinking in terms of self vs. other. Moreover, in the perverse logic of Baudrillard's anomalous, the object, as an extensive target of social control, is preceded by an intensive logic that exceeds the grid of explanation imposed by social scientists, educationalists and therapeutic practitioners. Instead of deviations, anomalies start to exhibit intensities.

By returning to DeLanda's recent foray into the social sciences, we can further see how the notion of intensity intervenes in a mode of analysis focused upon organic unity. For DeLanda, this means the difference between relation, what he terms the *relations of interiority*, and the aforementioned *relations of exteriority*. In the former, societies are regarded as solely dependent upon reciprocal internal relations in order that they may exhibit emergent properties—in other words functionalism. In the latter, DeLanda seemingly turns the generalized social organism inside out, opening up its component parts to the possibilities and capacities of complex interactions with auxiliary assemblages. In fact, what he does is re-conceive the social organism as an assemblage, in which singular individuality emerges from the play between intensive virtuality and extensive actualization. DeLanda is evidently referring back to Deleuze and Guattari whose critique of organicism originally drew our attention to the intensive topological processes that define the becoming of an individual. It is central to their philosophic interpretation of how the virtual becomes actualized and further demonstrates their rejection of both essences and totalities as explanatory devices. Using Simondon's notion of how latent potentials, incompatibilities, forces of tension and impossible interactions all play a role in the process of individuation or *internal resonance*,[34] Deleuze locates the process of individuation as the 'act by which intensity determines differential relations to become actualised'.[35]

To further explicate the relevance of individuation to our take on anomalies and return our discussion to issues concerning digital network culture, let's return to the example of the forensic honeypot computer introduced in the first section of this chapter. Previously understood as a closed system, the rationalized logic machine soon becomes exposed to the disparities of the network. Emergent relations hijack the honeypot's functionality. Its individuation—realized through a relation to exteriority—links up disparities and in turn connects it to other assemblages. It is at this juncture that we locate the transformational *differentiation* and *alterity* of the honeypot as it becomes inseparable from the relations it establishes with a multiplicity of machinic universes, populated by technosocial actors, including netbots, virus writers, cookies and hacker groups and their software. Nevertheless, the anomalies that traverse the individual are not simply disparities that suppress or divide, but are instead evidence of the coupling of the individual to a pre-

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[32] Jean Baudrillard, "'A Perverse Logic – Society's Attitude Towards Drugs." *Unesco Courier*, July 1987, http://findarticles.com/p/articles/mi_m1310/is_1987_July/ai_5148909/pg_2 (last accessed April 12, 2007).

[33] Ibid.

[34] Gilbert Simondon, "The Genesis of the Individual," in Crary and Kwinter, 297-319. Trans. M. Cohen and S. Kwinter.

[35] Gilles Deleuze, "Difference and Repetition" 246

individual. This highlights the role of the anomaly in the process of the becoming of the honeypot. It establishes communication with other objects related to the assemblage, potentializing new territories or deterritorializing other assemblages.

Anomalies transform our experiences of contemporary network culture by intervening in relational paths and connecting the individual to new assemblages. In fact, the anomaly introduces a considerable amount of instability to what has been described in the past as a cybernetic culture.[36] In practice the programs written by hackers, spammers, virus writers, and those pornographers intent on redirecting our browsers to their content, have problematised the intended functionality and deployment of cybernetic systems. This has required cyberneticians to delve deeply into the tool bag of cybernetics in an effort to respond to the problem engendered: *how to keep the system under control?* For experts in the computing field, defensive software, such as antivirus technology, represents a new mobilization of security interests across the entire networked computing environment instead of being exclusively aimed at single computers,[37] and it is interesting to see how many of these defences appear to play to the notion of organic unity as described above. For example, computer scientists based at IBM's TJ Watson Research Centre during the early 1990s attempted to tackle the problem of computer viruses by developing a cybernetic immune system.[38] Using mathematical models borrowed from epidemiology, these researchers began to trace the diffusion patterns of computer viruses analogous to the spread of biological viruses. Along with other commercial vendors, they sought out methods that would distinguish between so-called legitimate and viral programs. In other words, their cybernetic immune system was designed to automate the process of differentiating *self* from *non-self* and ultimately suppress the threshold point of a viral epidemic (the point at which a disease tips over into a full blown epidemic).

However, the increasing frequency of digital anomalies has so far confounded the application of the immunological analogy. In fact, research in this area has recently shifted to a focus on topological vulnerabilities in the network itself, including a tendency for computer viruses to eschew epidemiological threshold points altogether.[39] Maps of the Internet and the World Wide Web, produced by complex network theorists in the late 1990s,[40] demonstrate how networks become prone to viral propagation, as they would any other program. There is, as such, a somewhat fuzzy distinction between what can be determined as self and non-self. As we have already pointed out, the anomaly is not, in this sense, outside the norm.

The history of cybernetics provides us with many more examples of this problem where logic encounters network politics. The origins of Turing's theory of computational numbers was arguably realised in a paradoxical and largely unessential composition of symbolic logic, in as much as he set out to prove that anomalies coexisted alongside the axioms of formal logic.[41] Not surprisingly then, Turing's *halting problem*, or the *undecidability problem*, eventually resurfaced in Cohen's formal study of computer viruses, a doom laden forecast in which there is no algorithmic solution to the detection of all computer viruses.[42]

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[36] Robins and Webster, *Times of Technoculture* 1999

[37] David Harley, Robert Slade, and Urs E. Gattiker, *Viruses Revealed! Understand and Counter Malicious Software*. (New York: Osborne/McGraw-Hill, 2001), 49.

[38] See for example Kephart, Sorkin and Swimmer's paper: *An Immune System for Cyberspace* delivered at the IEEE International Conference on Systems, Man, and Cybernetics - *Artificial Immune Systems and Their Applications* in 1997. IBM's immune system was eventually developed in partnership with the antivirus vendor Symantec.

[39] A study of 800 computer virus infections found that computer viruses tend to stay at a low, but stable level of infection over long periods – up to three years in some cases. The researchers concluded that the Internet is 'prone to the spreading and the persistence of infections at a prediction of a nonzero epidemic threshold.' (See Pastor-Satorras, R., & Vespignani, 2001 *Epidemic Spreading in Scale-Free Networks*. Phys. Rev. Lett. Issue 14 – 2 April 2001)

[40] Albert-László Barabási, *Linked: How Everything is Connected to Everything Else and What It Means for Business, Science, and Everyday Life*. (New York: Plume, 2003). See also Sampson & Rogers' chapter in this book.

[41] On Turing's work on Hilbert's Entscheidungsproblem see Jon Agar, *Turing and the Universal Machine* (Cambridge: Icon Books, 2001)85-100

[42] See reference to Fred Cohen's PhD thesis and experiments with computer viruses in 1983 in Eric Louw, and Neil Duffy, *Managing Computer Viruses*. (Oxford: Oxford University Press, 1992) 7-9

Indeed, logic systems have long been troubled by their inability to cope with virals. The problem of the self-referencing liar bugged the ancient Greek syllogistic system as much as it has bugged the contemporary cybernetics of network culture.

In this light, it is interesting to draw attention to the way in which these fault lines in cybernetics and Durkheim's anomie have converged in cyberculture literature. With its many references to Gaia[43] (a theory of natural balance and equilibrium akin to immunology) cyberculture has co-opted the principle of the self-referencing maintenance of organic unity into the fabric of the collectivities of cyberspace. For example, Barlow argues that the immune system response of the network is 'continuously' defining 'the self versus the other'.[44] In this way, he typifies the tendency of cyberpunk's frontier mentality to discursively situate the digital anomaly firmly *outside* of the homeostatic system of network survivability. In fact, as Sterling (the friend of the hacker) reveals below, cyberpunks and the cyberneticists of the antivirus industry have become strange bedfellows.

> They [virus writers] poison the digital wells and the flowing rivers. They believe that information ought to be poisonous and should hurt other people. Internet people build the networks for the sake of the net, and that's a fine and noble thing. But virus people vandalize computers and nets for the pure nasty love of the wreckage[45]

It seems that the much wished for stability of the cyberpunk's *Daisyworld* is increasingly traversed by the instabilities produced by the anomaly. As Sterling noted in another context, "the Internet is a dirty mess"[46] which has lost its balance mainly because of the increasing outbreaks of cyberterrorism and cybercrime, but also because of the negligence of the authorities to adequately address the problems facing network culture. In Sterling's vision, which increasingly echoes those of the capitalist digerati, there is a horizon on which the network eventually becomes a clean and frictionless milieu. Yet such a sphere of possibility rests conceptually on the notion of homeostasis and stability, which sequentially implies a conservative (political) stance. In our view it is more insightful to follow Geert Lovink's position that networking is more akin to *notworking*:

> What makes out today's networking is the *notworking*. There would be no routing if there were no problems on the line. Spam, viruses and identity theft are not accidental mistakes, mishaps on the road to techno perfection. They are constitutional elements of yesterday's network architectures. Networks increase levels of informality and also pump up noise levels, caused by chit-chat, misunderstandings and other all too human mistakes.[47]

We argue that the *noise* of Lovink's *notworking* not only throws a spanner in the works of the cybernetic system, but more intimately connects us to the capacity of the network to affect and thus produce anomalies. Instead of seeing the network as a self-referential homeostatic system, we want to therefore propose an autopoietic view of networks wherein alterity becomes the mode of operation of this sociotechnical machine. Following Guattari[48], we

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[43] See J.E. Lovelock, *Gaia: a New Look at Life on Earth* (Oxford: OUP, 1979) & *The Ages of Gaia: A Biography of our Living Earth* (Oxford: OUP, 1988).

[44] See John Perry Barlow "Go Placidly Amidst the Noise And Haste" A New Perspectives Quarterly interview with John Perry Barlow, Co-founder of the Electronic Frontier Foundation http://www.eff.org/Misc/Publications/John_Perry_Barlow/HTML/npq.html (accessed April 4 2007)

[45] Cyberpunk author, Bruce Sterling, writing for *Antivirus Online* Volume 2: Issue 1. Archived at vx.netlux.org/lib/mbs00.html (accessed April 4 2007)

[46] Roy Mark, "The Internet: 'A Dirty Mess.'" www.internetnews.com, June 8, 2004, http://www.internetnews.com/bus-news/print.php/3365491 (last accessed April 12, 2007).

[47] Geert Lovink, *The Principle of Notworking. Concepts in Critical Internet Culture*. Amsterdam: HVA Publicaties 2005, 10. Online at <http://www.hva.nl/lectoraten/documenten/ol09-050224-lovink.pdf>.

[48] Félix Guattari has, in this sense, further questioned the tenets of second order cybernetics, and in particular the distinction made between autopoietic machines and allopoietic machines (Félix Guattari, *Chaosmosis* 1992 39-40). According to the key definitions set out by Maturana and Varela, autopoietic machines are self-organizing unities; a system able to recursively engender the identical network of processes which produced them in the first place (self-production). For example, the bounded structure of a biological cell is evoked as a process of circular homeostatic maintenance. Consistent with Maturana and Varela's definition, autopoietic machines (limited to the biological domain) differ from allopoietic machines (technical and social systems), which are defined in terms of a purpose other than the maintenance of their own self-production. In this sense, allopoietic machines produce (or reproduce) something other than themselves, for instance, an assembly factory that produces cars. However, when

argue that systems are not structures which merely stabilize according to a predetermined task, but are instead machines composed in disequilibrium and a principle of abolition. Here, re-creation works only through differentiation and change, which are ontological characteristics of a system that relies continuously on its exterior (a network). The digital network is consequently composed in terms of a phylogenetic evolution (change) of machines, and importantly understood as part of a collective ecological environment. In this context, the maintenance project of any machine (social, technical or biological system) cannot be simply confined to the internal (closed in) production of self, or for that matter the detection of non-self, but instead returns us to the individuation process (discussed ealier) and the continuance of what Guattari calls the 'diverse types of relations of alterity.'[49] We argue that a condition akin to a *horror autotoxicus* of the digital network, the capacity of the network to propagate its own imperfections, exceeds the metaphor with natural unity. Indeed, despite a rather vague notion about the purposeful essence of network production as described by individuals like Bill Gates (something perhaps akin to Spinoza's 'perfect nature of God'), the network itself is without a doubt the perfect medium for both perfection and imperfection.

Conclusion: Standard Objects?

We do not doubt that what we are dealing with here are very curious objects indeed. They present mind-boggling problems to system managers and network controllers Yet, the failure to adequately overcome the computer virus problem perhaps pales in comparison to what *Wired Magazine* has described as the next big issue for network security: the autonomous software netbots (or spambots) that are more flexible and responsive to system defences than the familiar model of pre-programmed computer viruses and worms. As *Wired* describes the latest threat

> "The operational software, known as command and control, or C&C, resides on a remote server. Think of a botnet as a terrorist sleeper cell: Its members lurk silently within ordinary desktop computers, inert and undetected, until C&C issues orders to strike."[50]

Here we see that the netbot becomes discursively contemporised in terms of a latent terrorist cell that evades the identification grid of an immune system. Possibly this marks a discursive shift away from the biological analogy with viruses and worms towards the new anxieties of the war in terror. Whatever the rhetoric, identification is perhaps the key contemporary (and future) problem facing not just computer networks, but networks of political power, wherein non-existence (becoming invisible) can become a crucial tactical gesture.[51]

The invisibility of software objects has in practice confounded a media studies approach orientated towards a representational analysis of phenomenological "content". Software considered as a specific set of instructions running inside a computer is obviously something

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such strict boundaries are applied to the cybernetic machines of the digital network there is a certain amount of conceptual seepage. Guattari sees an overlap between autopoietic and allopoietic machines when one considers technical machines in the 'context of the machinic assemblages they constitute with human beings'.

[49] We have both discussed the significance of the relation of alterity in the context of the digital anomaly elsewhere. For example, critical of the 'conservative' circularity of homeostatic processes described by Maturana and Varela, Parikka has draw upon Guattari to focus instead on the evolutionary coupling of the computer virus to the digital media ecology (See Jussi Parikka, The Universal Viral Machine: Bits, Parasites and the Media Ecology of Network Culture in Ctheory 2005). Similarly, Sampson discusses how the 'significant topological intensity of the human-computer assemblage… shifts the contemporary debate on noise away from Shannon's model towards a complex, non-linear and relational interaction' (See Tony Sampson, Senders, Receivers and Deceivers: How Liar Codes Put Noise Back on the Diagram of Transmission. M/C Journal 2006).

[50] "Attack of the Bots." *Wired* 14.11. (November 2006). <http://www.wired.com/wired/archive/14.11/botnet.html>.

[51] As Alex Galloway and Eugene Thacker propose in their article

more akin to a performance, rather than a product of visual culture. To combat the often-simplistic analysis of software, Lev Manovich proposed, back in 2001, that media studies should move towards "software studies", and in doing so he provided an early set of principles for an analysis of new media objects. Manovich's principles of new media include *numerical representation*, *modularity*, *automation*, *variability* and *transcoding*. New media in this way is based upon the primary layer of computer data – code – that in its programmability separates "new" media from "old" media, such as print, photography or television.[52] However, since then, Chun has noted how Manovich's notion of transcoding – that software culture and computation is about translating texts, sounds and images into code – is not a sufficiently rich notion.[53] Instead of registering (repeating) differences that pre-exist, Chun argues that computation makes differences and actively processes code in and out of various phenomenological contexts, such as text or sound. Her argument is supported by virus researchers who note that even a simple opening and closing of an application, or rebooting of a system, can make changes to boot sector files, log files, system files and Windows' registry. For example, opening and closing a Word document is a computational process that may result in, for example, the creation of temporary files, changes to macros and so forth.[54] However, these processes do not directly come into contact with the human senses (we cannot always see, hear, touch, taste or indeed smell an algorithmic procedure) and there is consequently a deficit in our cognitive and conceptual grasping of software objects and processes, as such. Yet, despite the *abstract* nature of mathematical media, these processes are completely real and demand attention from cultural theory, not least since the contemporary biopower of digital life functions very much on the level of the non-visual temporality of computer network.

The anomalous objects discussed in this book can therefore be taken as indices of this novel media condition in which complex transformations occur. Yet, while on an algorithmic and compositional level, the objects and processes highlighted in spam e-mails, computer viruses and porn communities are not in anyway different from other objects and processes of digital culture, there is clearly a repetitious and discursive filtering process going on: *if software is computation that makes a difference (not just a coding of differences), then there is also a continuous marking out of what kind of processes are deemed as normal, abnormal, and/or anomalous.* In other words, there is an incessant definition and redefinition of what, on the one hand, makes a good computation, a good object, and a good process, and on the other hand, what is defined as irresponsible and potentially a bad object or process. However, as noted above, the material and expressive boundaries of these definitions are not at all clear. We may, in this light, therefore suggest that such turbulent objects are considered as standard objects of network culture.[55] Instead of merely being grasped as elements that should be totally excluded from the economic, productive and discursive spheres of the knowledge society, they are equally understood as captured and used inclusively within the fabrication of digital assemblages. For example, the anomaly takes on new functionalities as an innovative piece of evolutionary "viral" or "spam" software (in digital architecture or sound production for instance), or is translated into new modes of consumer organization and activation (viral marketing) or becomes adapted to serve digital sociality in practices and communities (pornographic exchange).

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[52] Lev Manovich, *The Language of New Media*. (Cambridge, Mass.: MIT Press, 2001), 27–48.

[53] Wendy Hui Kyong Chun, "On Software, or the Persistance of Visual Knowledge." *Grey Room* 18 (Winter 2004), pp. 28–51. See also Lisa Gitelman's analysis of the nature of Internet objects in her book *Always Already New*.

[54] Harley, Slade, and Gattiker, 157.

[55] Matthew Fuller, *Media Ecologies. Materialist Energies in Art and Technoculture*. (Cambridge, Mass.: MIT Press, 2005), 103-107. With standard objects we mean, following Fuller, the *objectification* of a certain module, or a process, so that it can be relied upon in the future. In other words, making an object into a standard requires the fabrication and stabilization of its potentialities so that it can be consistently applied in different contexts. Standard objects are of course only idealizations, in as much as they work, but can also breakdown. They are the result of forces, assemblies and mechanisms, yet never without a residual potentiality, as Fuller reminds us. They can always be stretched and opened up, made to breakdown and to take on new functions.

From the varied perspectives offered in this collection the reader will notice that our take on the anomaly is not considered sacrosanct – anomalous digital objects are distributed across many scales and platforms. However, we do feel that all of the following chapters intersect with our notion of the anomalous object, albeit provoking a controversy around its compositional theme. Therefore, in order to introduce a sense of organization to the mixture of viewpoints put forward in the *Spam Book* we have divided the chapters in subsections.

Section I: Contagions

In this first section John Johnston's chapter locates anomalous contagious objects lurking from within the dark underbelly of Artificial Life research as he analyses the logic of software inherent in artificial computation-*as-it-could-be*. Exploring processes of self-organization he questions the viability of virally coded anomalies, which are both outside of the natural order of things and at risk of exceeding the services of human interest. Tony Sampson explores notions of universal contagion and epidemic network power expressed in a number of cultural studies accounts. He challenges what he terms the essentialist's model of the distributed network epidemic and draws attention instead towards recent empirical studies in the field of digital epidemiology. Using the scale-free model, he claims that increasingly vulnerable networks become universally viral by way of the dispersal of anomalous networked events rather than the intended outcomes of distributed epidemic codification. Luciana Parisi continues the contagion theme by arguing that analysis needs to move beyond the impasse of the digital/analogue dichotomy, and in order to do so researchers need to conceive of complex *spam architectures*. Her ideas are densely woven around the principles of endosymbiosis, Whitehead's theory of extension and the digital architectures developed by Greg Lynn. All of which enable her to confront the dominating neo-Darwinian algorithmic paradigm of genetic evolution. Finishing this section, Roberta Buiani proposes that virality is not merely an inherent "natural" part of the software code, but is continuously distributed as figures of contagion, virulence and intensivity across popular cultural platforms.

Section II: Bad Objects

Jussi Parikka begins this section by looking at how bad objects are continuously pinned down, archived, censored and normatively controlled within the semiotic regimes and logics of scientific articulation. His chapter looks at how software is produced, not only on the code level, but also translated into images, sounds and other modes of perception. He argues that these latter modes of translation become key tools in the study of contemporary networked biopower. One example of this translation (or transformation) from code to perception becomes the central theme of Steve Goodman's chapter, which evaluates the audio glitch virus in terms of its development and subsequent intellectual responses to it. In doing so he constructs a rhythmic virology of the glitch, mapping its movement of contagion through the rhythmic nexus. To close this section, Matthew Fuller and Andrew Goffey's chapter delineates the potential of an "evil media studies". This is not, they claim, a discipline in itself, but rather a wide-ranging focus on the informal but recurring stratagems of network production. Perhaps it is not a discipline, but we suggest it provides a flexible and inspiring framework for future research into anomalous objects.

Section III: Porn

Seemingly contrary to our introductory focus on the sensory *invisibility* of anomalous objects, it appears that the anomaly can still readily attract the eye, particularly with regard to online porn and the exchange of graphics images. Susanna Paasonen therefore responds to the glut of porn spam that entered her university inbox by 'reading' the content of each email on a number of 'scavenging' methodological levels. Her focus on the content of these emails supports a fascinating take on the processes of filtering so-called pornographic anomalies from the norms of sexual practice. Katrien Jacobs explores this economy of porn excess from the perspective of figures of sexual anomaly, including the war-porn from Abu Ghraib, and claims that in order to deaden such macho displays of violence we should learn more from strategies developed in S&M practices. Her chapter argues that the economy of excess expresses the logic of the networked distribution of net porn and also provides the potential for a reconceived sexual ethics of exploration and variation. Dougal Phillips'

take on the pornographic file-sharing-site *Empornium* suggests a radical rethinking of the logic of exchange and desire flowing in contemporary technological networks. Drawing on Jean-François Lyotard's question - *can thought go on without a body*? - his chapter advances the idea that pornographic networks challenge the commodity focused capitalist logic of appropriation. In contrast, he argues that the logic of protocols and file sharing networks shifts our focus towards a novel posthuman exercise in desire, perhaps beyond human bodies, but nevertheless tied to other forms of embodiment.

Section IV: Censored

The anomalous object is not simply the censored object, but becomes part of the politics of censorship in itself. In his chapter Greg Elmer helps us to locate the anomalous in the *invisible* processes of network politics and censorship carried out by the scurrying of search engine robots (bots). In doing so, he focuses our attention on the coded countermeasures which are informally, and often anomalously, evolved in order to exclude bots from searching and collecting metadata and webpage content. Elmer also points out how these inconsistent countermeasures incidentally block Internet researchers from sensitive content. Richard Rogers develops upon the anomalous themes of Internet censorship in his chapter where issues of new media censorship are contrasted to old media thinking. For example, he contrasts the censorship of a book (a single source of information) to the censorship of dynamic, circuitous and distributed Internet content. His proposed new media-style approach to Internet censorship research takes into account both the fragmentary 'circulation space' and the surreptitious tactics of those who seek to avoid censorship.

Coda

We finish the book by catching Galloway & Thacker's moment of suddenly falling asleep in a narcoleptic voyage through the spam networks of contemporary culture. They offer an inspiring and entirely befitting take on the "sleep-writing" by-products of computers, from spam trash to the politics of perception.

As we have already suggested there are clearly many takes on the digital anomaly, but what *The Spam Book* proposes to do is shed some light on what has up until now remained on the dark side of media and communication analysis. We hope you enjoy it.

Jussi Parikka and Tony Sampson: May 2007, Berlin & London

NETWORKS AND MOVEMENTS: AN INTERDISCIPLINARY CONVERSATION

Between Issue and Social Network. Insights from an ongoing research on mobilization on Communication Rights in Italy.

Claudia Padovani & Elena Pavan

In the knowledge age, information, communication and related technologies are not only instruments to foster, coordinate and sustain collective action but have become also a site of struggle around which advocacy networks are shaping and developing, nationally as well as trans-nationally. Common discourses, strategies and actions in this context develop both online and offline. A network approach to the investigation of these dynamics seems useful in order to portray the continuous interplay among different levels of practice, the creative use of technologies and the potential impact of mobilizations. This work focuses on the Italian context and shows how issue and social network approaches can productively be jointly applied in the study of communication rights mobilizations. Research questions will be addressed concerning the meaning of networking activities, their features, the meaning of ties (or of their absence) and the role of technology in fostering practices of social networking.

Advocacy networks and policy networks in the European Union: the case of media pluralism

Giorgia Nesti & Matteo Cernison

European governance processes are often labeled as ambiguous. The EU institutional context is marked by high complexity, due to the technical nature of the issues at stake;but is also characterized by weakness, due to its political structure, where political parties and representative institutions are underestimated. In order to cope with complex issues and to gain consent and legitimacy, the European Commission has engaged civil society (i.e. interest groups) in policy networks. What emerges is a polycentric system of policy-making where governmental and non governmental actors, mainly from the business sector, take relevant technical decisions and exert influence on policy regulation. Taking European policy for media pluralism as a case-study, the paper is aimed at: a) mapping governmental and non governmental policy networks currently emerging in the context of European media regulation; b) assessing their potential impact on decision-making; c) exploring political implications for the development of a democratic European polity.

Networks of radical tech collectives: Social logic and technological dimensions of emancipatory practices in the field of digital communication

Stefania Milan

In response to the commodification of digital communication infrastructures and the subsequent threats to the privacy of individuals and groups, over the past few years we witnessed the emergence of a number of autonomous groups whose aim is to counteract the politics of surveillance enacted by states and capital by providing alternative communications channels. Both tool and part of contemporary social movements, they embody a strong emancipatory mission: free fellow activists from the burdens of commercial web services and empower them through the creative use of free software. Core values include self-organisation, self-determination, equal access and free flow of information. Examples include the Italian server Autistici, offering web-hosting, email accounts and list-serves, the British-German Plentyfact but also more established groups as the British GreenNet. Drawing from a number of interviews with radical techies, the paper will present an overview of the European radical tech collectives, their connections, social logics and technological dimensions.

Consumption Styles and Digital Networks in Italy

Francesca Forno

ICTs have been said to play an increasing important role in the development of alternative political repertoires of action and campaigning. ICTs do not just have an instrumental function. Differently form 19th and 20th century newspapers and underground press, websites provide multiple sources of identification available, being a permanent setting of representation for groups and individuals. Focusing on the way ICTs are used by organisations engaged in the promotion of alternative ways of consumption grounded in solidarity principles, the paper exemplify how the Internet and Internet-based methods can be used to study the formation of new social and political actors and actions.

The extreme right, networks, and the internet: a comparison of the multi-organizational field of the extreme right in Italy and Germany

Claudius Wageman & Manuela Caiani

Networks are increasingly important for the extreme right. On the one hand, right-wing extremists use the internet in order to fix dates; arrange events; and to communicate quickly and effectively with each other. This way helps avoiding too much visibility with hostile forces. On the other hand, the right-wing sector in general increasingly relies on network organizational structures. Fix structures are avoided, since they would permit state authorities to intervene against them. Through social network analysis based on web linkages between organizations, our paper aims to explore the structure and the nature of the multi-organizational field of the Italian and German extreme right, both with regard the communication and the organizational dimension.

THE GLOBAL AND THE LOCAL

Conceptualizing Semantics and Ontologies in a New Network Era

Ramesh Srinivasan

This talk will explore several dimensions of my global cross-cultural collaborative research with ethnically-diverse populations, the focus being the study of how technologies may be sculpted to represent diverse epistemologies held by ethnic, indigenous, and diasporic populations. I shall argue that as the syntax and structure of cultural discourses fundamentally differentiates communities, systems also must acknowledge such differences. Databases can begin to take on attributes of complex adaptive systems, and the 'universality' of top-down web systems can be de-bunked. This movement shall be described relative to several of my field-based ethnographic projects with indigenous communities, including a. The National Science Foundation funded Emergent Databases collaboration with the Zuni, NM. b. Historical work done with the Native tribes of Southern California and c. Ongoing work with South Asian migrants in the Los-Angeles region. Each of these projects weaves ethnographic, system design, and participatory action-type methods to uncover data that reveals the power of database-driven systems to serve local sociocultural realities.

Communicative Societies in a Networked World.

Jana Nikuljska

Societies differ in the ways they communicate, within themselves and with others. They vary in the grounds on which communication is established, what its drivers are once initiated, what is productive and what destructive in nurturing communication, and so on. Macedonia is very much a communicative society. An experience is not truly experienced, until it is shared. And the collective experience for the past decade – in which visa requirements from very liberal were made extremely stringent – has been an inward one, where much of the information about the outside world was gathered and aspects of communication within Macedonian society were harnessed through the Net. Social software has complemented a traditionally and intuitively embedded sense for networking. Old and new aspects of communication have mixed in a unique local experience.

Study of the rate, types and behavioral model of internet Users in Mashhad city in Iran

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Abstract:
This research is an attempt to study the rates and styles of the utilizing and behavioral model
of internet users via utilizing proper farm work theories, group's dynamics and communicative actions. For this purpose a survey technique on the sample size amounted 403 high schools students of the third region of city of Mashhad in Iran were considered. The sampling method was a two–stage cluster based approach. The results showed an average internet utilizing about 498 minutes per week. The results are considered to make an arrangement of the rate of internet using for different objectives such as chat, music, science, game, e-mail, web log, jock, news, sport, sexual, movie, soft ware, cart postal, political, cultural, and social – economical. The results of this paper showed that the behavioral model of internet users varies along with time. While spending time for chat, jock, music, game, and sexual subjects at the first months of experience with internet are about highest, after several months these kind of using decrease and change toward increasing the portion of science, weblog, and e-mail objectives. Spending time for access to the news remains about constant along with time.

Key words: kinds of internet, behavioral model, mass communication, Iranian students

Introduction:
Continuous growing of technology bring social and economical consequences variations on different aspects of our daily life. In current century, these changes will happen faster, with less time to prepare. Thus prediction of two important aspects of these variations "Positive and Negative impact" is an essential task for our alive world to avoid wrong choice otherwise our technology will destroy us. Internet is a phenomenon that has many effects on the different social life aspects. Using the internet can be an enjoyable and important educational tool for people with different ages and personalities. Internet access is a vital part of the modern world and an important tool in the education of our children. It is present in schools, homes and even shopping malls. Mastering the use of the internet is likely to be an important skill for those entering the job markets of the future. An internet user can be anyone he or she wants to be in an online chat room, or play thrilling and challenging games against other players from all corners of the globe with Internet mixing with different cultures and new communities.
. With the click of a mouse, one can enter a different world where the problems of the real world are no longer present, and all the things one wishes he or she could be or experience are possible. It seems at present time (or near future) for many people relationships in the real world may be neglected as those in the virtual world increase in importance. Therefore to achieve more positive effects and limiting its shortcomings we need to evaluate types and behavioral model of this modern mass media on the human sociology life.

Framework:
To evaluate and recognizing of changing of values in this research hypothesis scare of Ingelhart has been used. According to ingelhart hypothesis one gives the best values for the rare favorite things. Concerning to Igelhart theory: "the preferences of people, is the reflections of their social and economic environments" [Igelhart, 1977].
Concerning to action theory by Habermas, internet interaction space can be considered as an ideal conditions for conversation. He indicated that "there are a lot of major requirements for all people in an ideal freedom environment" and these requirements can be discover by all people in a friendly dialogue [ ] ((pusey,1987).

Regards to specifications of internet space that is a free dialogue environment without necessity to forced introducing of their defined social personality, therefore internet users can achieve to a new preliminary friendly dialogue. Therefore an emotional discourse can be happened that is a basis for talking about their requirements. Based on following model Homans emphasizes that in selection of several actions, one will select the action that is along with achievement to more benefits(tuner,1986). Homans also says that if follow up a value cant cause to satisfaction, the rate of that value little by little will be declined and new values with more satisfaction effects will be appeared.

Homans' Model

stimulant → action → reward → values → repeat of action and more use

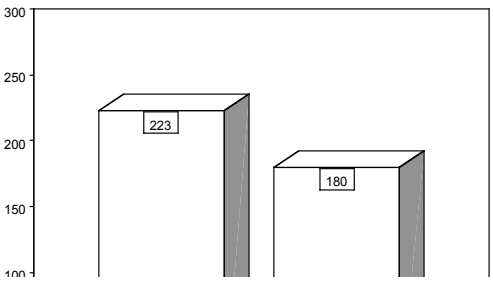
In this research according to Homans model, stimulant is internet space and related environments that can cause actions and via these actions they can achieve to more rewards. Because this space can cause more satisfactions and this may be cause to increase more internet utilizing. The rate of this increasing can be decrease along time naturally.

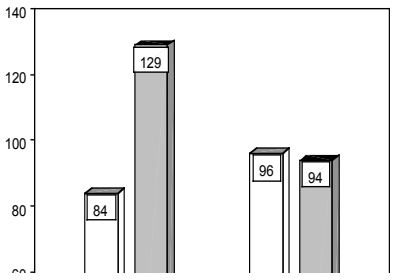
On the other hand based on Etkinson theory: one of the most important factors of evaluation of messengers are the rate of the attractiveness of messenger. Therefore within performing of this research and behavioral model is it tried that the attractiveness of the messenger to be considered (Etkinson , 1993).

Methodology:
This research a survey technique on the sample size amounted 403 students of governmental high schools of the third region of city of Mashhad in country of Iran were considered. The sampling method was a two–stage cluster based approach.

Results and discussions
Discussions on the results are considered in following sections regarding frequencies, local of access to the internet, rate and objectives of internet using.

the frequency and distribution of subjects:
the frequency of all subjects are 403 persons 180 of them are internet users (about 45%) of subjects amongst them 46/7 percent female and 53/3 percent male. 52/9 percent of all subjects are male students and 47.1 percent are female students. (chart 1 & 2).





b) **Mean and median of internet users**
Chart 3 shows the mean of using internet according to the sex of users. The mean is 498/28. The median of using internet is also 360 minutes (chart 3).
(499.1 minutes per week of females and their median is 360 minutes per week and 497.9 minutes per week for males with the median of 420 minutes per week). This shows higher mean for females and higher median for males.

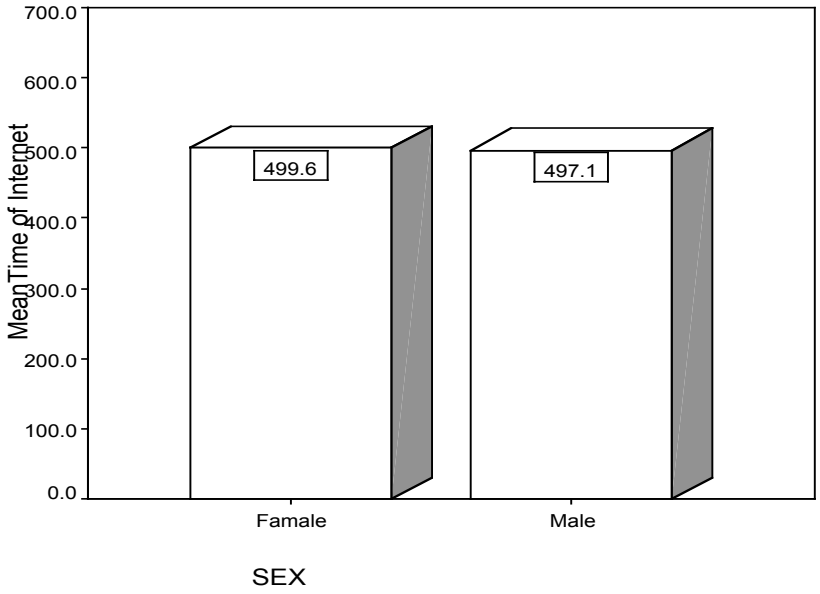
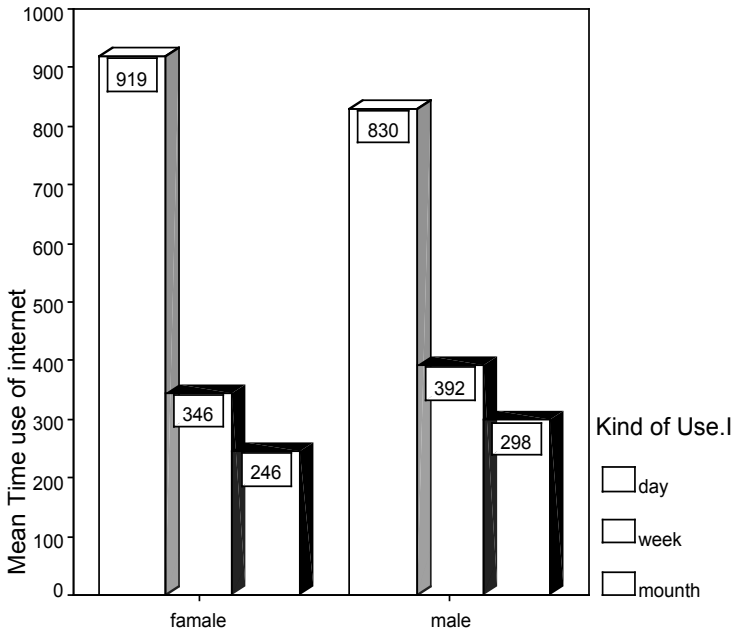


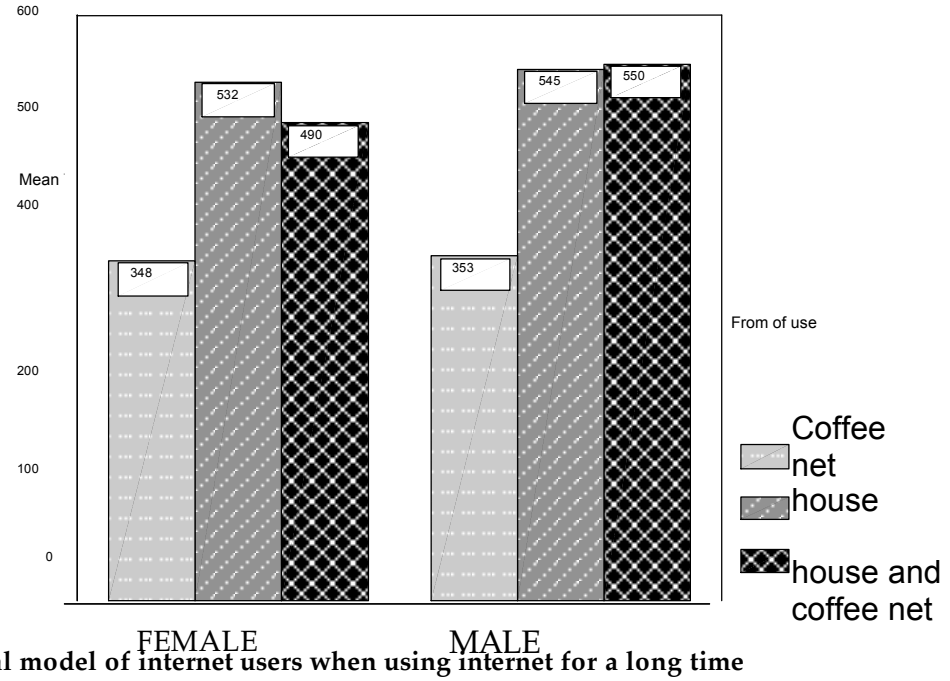
Chart 3 mean time of internet use

c) how often do the users use intenet.
30 percent use internet daily, 44.8 percent use internet weekly and 26.7 percent use internet monthly(chart 4).



Number graph 4 how to use in the internet

d) Where do they use internet:
Chart 5 shows the places where female and male users use internet; including house, coffee net and both (chart 5).

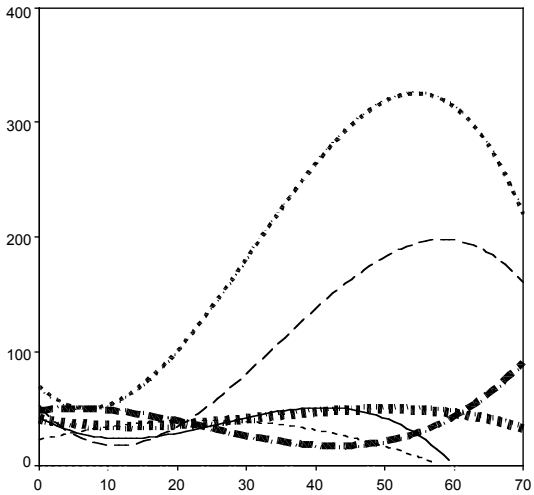


e) Behavioral model of internet users when using internet for a long time

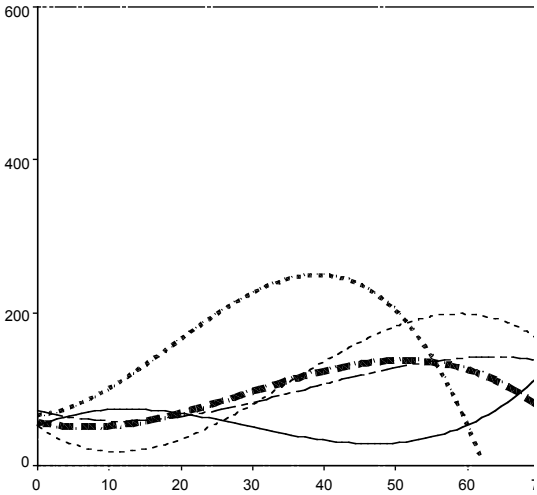
By looking at chart 6 , it can be understood that within first ten month the use of internet will increase the users are curious , the types of using internet will change after ten month the changes are as follows: chatting will increase quickly and this increase will be continue until 40 month and after that will decrease, use of e-mail increase weakly, but among 20 until 40 month use of e-mail decrease and after 40 month increase again (perhaps e-mail will take the place of chat), use of game in the internet increase until 50 month and after 50

month will decrease , access to scientific environment on the internet is stable at first , after 20 month this use will increase, use of jock environment at the internet until 15 month first of use decrease but after that it will increase to 50 month and after 50 month it will decrease again .

Concerning the scatter graph 7 use of weblogs at the first 40 month have increased , but after 40 month use of web log decreases, access to the news have no relation to the rate of use of internet, film view of internet decrease at first until ten month but after that till 40 month it increases and after 40 month decreases , sexual pictures on the internet until 25 month of using internet will increase but after 25 month will decrease. use of music on the internet increase quickly and until 50 month this increase will continue.



Scatter graph 8



Scatter graph 7

f) Means rate of use of internet environment kinds (table 2).

Concerning to table 2 ,the rate of use of internet among all internet users in different types of use of internet environments per week. Is as follows:1- chat with means of 172.15 minutes , 2- music with means of 90.80 minutes ,3- science with means of 67.30, , 4- game with means of 65.22 minutes , 5- e-mail with means of 63.5 , 6- web log with means of 42.58 minutes , 7- jock with means of 41 minutes, 8- news with means of 38 minutes , 9- sport 34.23 minutes, 10- sexual picture 31.57 minutes, 11- film view 31.44 minutes,12- soft ware with means of 29.5 minutes , 13- cart postal with means of 24.62 minutes,14- political 22.75 minutes , 15 – cultural 22.08 minutes, 16- access to information of social- economic 11.59 minutes.
the rate of use of internet among female internet users in different types of use of internet environments per week (table2). Is as follows ; 1- chat with means of 251/91 minutes , 2- music with means of 137.85 minutes ,3- science with means of 75/41 minutes, , 4- e-mail with means of 74/16 , 5- game with means of 62/79 minutes 6- jock with means of 47/14 minutes 7- web log with means of 35/59 minutes , 8- news with means of 32/26 minutes , 9- film view 31.9 minutes ,10 - sport 25/74 minutes, 11- soft ware with means of 18.15 minutes , 12- cart postal with means of 30.71 minutes, 13- cultural with means of 24.76 minutes 14- political with means of 20/11 minutes, 15- sexual picture 16/5 minutes, 16- access to information of social- economic 8.98 minutes.
The rate of use of internet among male internet users in different types of use of internet environments per week (table 2). Is as follows : 1- chat with means of 133.85 minutes , 2- game with means of 67.42 minutes, 3- science with means of 60.20 minutes, 4- e-mail with means of 54.15 minutes , 5- sexual picture 49.94 minutes 6- music with means of 49.63minutes , 7- web log with means of 49.16 minutes , 8 - sport 42.08 minutes , 9- soft ware with means of

39.42 minutes ,10- political with means of 38.17 minutes 11 - jock with means of 35.62 minutes, 12- news with means of 34.90 minutes , 13- film view 31.04 minutes 14- cultural with means of 19.37 minutes,15- cart postal with means of 19.29 minutes, ,16- access to information of social- economic 13.89 minutes.

Table 2

Kinds of use internet	total	female	male
E-mail	63/5	74/16	54/17
Chat	172/15	251/91	133/85
Web log	42/85	35/059	49/16
Game	65/22	62/79	67/43
Science	67/30	75/41	60/20
Political	22/75	20/11	38/17
Social- economical	11/59	8/98	13/89
News	38/47	32/26	34/90
Sport	34/33	25/47	42/08
Cultural	22/08	24/76	19/37
View film	31/44	31/90	31/04
Jock	41	47/14	35/62
Sexual picture	32/75	16/05	49/94
Music	90/80	137/85	49/63
Soft ware	29	18/10	39/42
Cart postal	24/62	30/71	19/29

Conclusion

The results of this research indicate the rate of internet using about 498 minutes per week for studied sample in Mashad's high school students. The results illustrate that the arrangement of the rate of internet using for different objectives can be divided as: chat, music , science, game, e-mail, web log, jock, news, sport, sexual, movie, soft ware ,cart postal, political, cultural, and social – economical aspects respectively for all users. Also results showed, although the rate of internet using for male and female are about similar, different type of using for different objectives had been considered. The arrangement of the rate of internet using for female users are as follow respectively:1- chat , 2- music ,3- science 4- e-mail 5- game 6- jock 7- weblog, 8- news, 9- movie 10 - sport 11- soft ware 12- cart postal 13- cultural 14- political, 15- sexual picture 16- access to information of social- economic. For male this results are as below respectively: 1- chat 2- game 3- science 4- e-mail 5- sexual picture 6- music, 7- weblog 8 - sport, 9- soft ware, 10- political, 11 - jock, 12- news, 13- movie, 14- cultural,15- cart postal, 16- access to information of social- economic. It should be noted that the rate of internet using for each mentioned tasks also are different for male and female as have been reported in the tables. This research also showed that the behavioral model of internet users varies along with time. While spending time for chat, jock, music, game, and sexual subjects at the first months of experience with internet are about highest, after several months these kind of using decrease and change toward increasing the portion of science, weblog, and e-mail objectives. Spending time for access to the news remain about constant along with time.

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The Internet and Identity in the Arab World

Deborah L. Wheeler

In the Middle East, like all regions of the world, the Internet and its constituency evolve daily. In spite of this flux, key patterns in regional Internet culture are clearly visible, and it is these regional themes which form the foundation for this analysis of the Internet and Arab identity. The Arab world is a compelling field site for testing many of the competing explanation for the Internet's global diffusion and meaning. As discussed in more detail below, it is a middle ranked economic region;[1] it is a place with one of the fastest Internet diffusion rates on the planet (2000-2007),[2] and it is a region with a mostly literate population where computer literacy is often encouraged by state and society[3]. At the same time, the Arab world is a place with distinct security challenges, both for state and individual.[4] It is a place where authoritarianism rules and information environments are historically not prone to free flow and openness.[5] It is also a region with significant gaps between haves and have nots, urban dwellers and rural inhabitants, men and women. These conditions provide a good environment for examining the relationship between internet diffusion and democratization;[6] the role that IT diffusion plays in economic growth and development;[7] the extent to which internet access enhances individual agency and

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[1] For example, a recent study of economic freedom world wide observes, "The Middle East has a comparatively high GDP per capita. At $7,002 per person, the regional GDP is dead center: lower than Europe and the Americas but higher than Asia and sub-Saharan Africa. The difference between the highest GDP per capita and the lowest is enormous: an estimated $27,400 in Qatar versus $879 in Yemen." Tim Kane, "Economic Freedom in 5 Regions," in *2007 Index of Economic Freedom* (Washington, D.C.: The Heritage Foundation, 2007). On-line version (accessed 3/27/2007) available at http://www.heritage.org/research/features/index/chapters/htm/index2007_chap4.cfm

Not surprisingly, as discussed in section 1 below, GDP seems, in some cases, to positively correlate with internet penetration with rich countries in the Arab world having higher penetration rates than poor ones. In Qatar, for example, approximately 27% of the population has Internet access, whereas in Yemen, only 1% does (for more on the break down of internet penetration by country see Internet World Stats (www.internetworldstats.com)

[2] According to Internet World Stats, the only other world region with higher diffusion rates is Sub-Saharan Africa. In the Arab World, for example, Internet access growth rates from 2000-2007 can be as high as 4,500% (Morocco) and 3,566% (Syria). The highest diffusion rate in the world was for Somalia (44,900%). Incidentally, Somalia is an Arab League member country. See www.internetworldstats.com

[3] Ironically, even though most people in the Arab World can read and write (65% in 2004 according to UNESCO), the Arab World has one of the lowest literacy rates in the world, when judged against global standards. Moreover, adult literacy rates vary widely by gender and by country with fewer literate women than men, and fewer literates in Morocco than in Jordan, for example. For more on the changing definition of literacy in the information age see Naz Rassool, *Literacy for Sustainable Development in the Information Age* (Clevedon, Avon and Philadelphia: Multilingual Matters Ltd., 1999).

[4] For examples of individual insecurity and state insecurity in the information age see Gamal Eid, *The Internet in the Arab World: A New Space for Repression?* Arabic Network for Human Rights Information, at http://www.hrinfo.net/en/reports/net2004 and Eva Bellin, "Coercive Institutions and Coercive Leaders," in *Authoritarianism in the Middle East: Regimes and Resistance*, ed. Marsha Pripstein Posusney and Michele Penner Angrist (Boulder: Lynne Rienner Publishers, 2005), pp. 21-41.

[5] For more on this subject see: *Authoritarianism in the Middle East*; Marcus Noland, "Explaining Middle Eastern Authoritarianism," *Working Paper Series*, Number WP 05-5, (Washington, D.C: Institute of International Economics, 2005); and Shanthi Kalathil and Taylor C. Boas, *Open Networks, Closed Regimes: The Impact of the Internet on Authoritarian Rule* (Washington, D.C.: Carnegie Endowment for International Peace, 2003).

[6] For more on the relationship (perceived or otherwise) between the Internet and democracy see: Cass Sunstein, *Republic Dot.Com* (Princeton: Princeton University Press, 2002), W. Lance Bennet and Robert M. Entman, "Communication and the Future of Democracy: A Conclusion," in *Mediated Politics: Communication in the Future of Democracy*, ed. W. Lance Bennett and Robert M. Entman (Cambridge: Cambridge University Press, 2004), pp. 468-480, Andrew Chadwick, *Internet Politics* (Oxford: Oxford University Press, 2006), esp. pp. 83-113, and *Governance.com: Democracy in the Information Age*, ed. Eline Ciulla Kamarck and Joseph S. Nye, Jr. (Washington, D.C.: Brookings, 2002)

[7] See for example Ernest J. Wilson III, *The Information Revolution and Developing Countries* (Cambridge: MIT Press, 2004), Leonard Dudley, "Communications and Economic Growth" (1999)Vol 43:3, pp. 595-619, and Saheer Al-Jaghoub and Chris Westrup, "Jordan and ICT-led Development: Towards a competition state?" *Information Technology and People*, Vol 16:1 (2003), pp. 93-110.

empowerment (especially in terms of gender and social class, and given authoritarian information environments)[8]. Moreover, a study of internet diffusion and identity issues in the Arab World enables us to see the ways in which the technology's meanings are in part, socially constructed.[9]

Over the past 10 years I have performed ethnographic studies of the Internet's meanings in Arab contexts including studies internet culture in Kuwait (1996-8)[10]; Egypt (2003a; 2003b; 2004)[11]; Jordan (2004)[12]; Oman (2004); Tunisia (2000) and Morocco (1997). These in depth case studies were supplemented by short research trips to Syria (1997), Turkey (2002), and United Arab Emirates (1997; 2004). This essay brings together the findings of this research in light of competing explanations to produce a bird's eye view of the Internet and its multi-colored meanings in the Arab World. It looks at different levels of analysis, focusing upon the varying responses to the Internet by states and societies in the Arab world. It asks the fundamental question of whether or not (and how/why) the Internet is transforming identity in the Arab World, maintaining the possibility that the Internet instead of being transformative, is simply a vehicle for relationships already extant in real time/life. One thing we know for sure is that the prophecies about internet access and use undermining authoritarianism and ushering in a period of Athenian style democracy world wide, have not come true.[13] This does not mean, however, that the Internet is insignificant. The following pages explore a handful of reasons why. In the end, this article makes an argument for why the Internet matters in the Arab World.

1. Internet Diffusion in Context: A look at the Arab World.

Internet diffusion has been increasing exponentially in the Arab World over the past few years. This high rate of diffusion contrasts sharply with the early years of the internet's regional spread. Some of the earliest adopters of the technology include Tunisia (1991-NSFNET connection), Cypress and Kuwait (1992), Egypt, Turkey and UAE (1993), Jordan, Morocco, Algeria, and Lebanon (1994). In the early years, diffusion was slowed by state concerns about losing an information monopoly, low public awareness/demand for the technology, high cost of access, limited computing skills among the population, and sparseness of Arabic language web content.[14] For example, in 2000, it was estimated that internet users in the Arab world constituted 2,474,800; in other words, less than 1% of the population. By 2007, however, the number of Internet users in the Arab World has risen to approximately 39,777,500 (according to Internet World Stats), which means that access has increased 15 fold. In some oil rich Gulf countries, internet access rates have reached an all time high of just over 35% penetration (UAE). But even in countries like relatively cash poor Morocco, Internet penetration has reached a surprising 15% of the population. This

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[8] See for example: *Counterpublics and the State*, ed. Robert Asen and Daniel C. Brouwer (Albany: State University of New York Press, 2001), and Jeffrey C. Goldfarb, *The Politics of Small Things: The power of the Powerless in Dark Times* (Chicago: University of Chicago Press, 2006).

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10 See for example Deborah L. Wheeler, The Internet and the Middle East: Global Expectations and Local Imaginations in Kuwait (Albany: SUNY Press, 2006)

11 D. Wheeler, "Egypt: Building an Information Society for International Development," Review of African Political Economy (December, 2003) Vol 30:98, pp. 627-642, D. Wheeler, "Living at E.Speed: A Look at Egypt's E.Readiness," in Challenges and Reforms of Economic Regulation in MENA Countries, ed. Imed Limam (Cairo: University of Cairo Press, 2003), pp. 129-157, and D. Wheeler, Empowering publics: Information Technology and democratization in the Arab World--lessons from Internet cafes and beyond OII Research Report No. 11, 2006.

[12] Wheeler, "Empowering Publics."

[13] See for example, Vice President Albert Gore's speech to ITU, 1994 (full text available on-line at www.goelzer.net/telecom/al-gore.html

[14] Wheeler, "Living at E.Speed," and Wheeler, "Digital Governance and Democratization in the Arab World," in *Encyclopedia of Digital Government* ed. Ari-Veikko Anttiroiko and Matti Malkia (Hershey, Pennsylvania: IGI Global, 2005), pp1-12.

represents an astounding seven year growth rate of 4,500% for Morocco's internet users, 1,500% for the region as a whole.

Country	Population 2007 Est.	Internet usage/2000	Internet usage/2007	% Population (penetration)	% growth 2000-2005
Bahrain	738,874	40,000	155,000	21%	287.5%
Iraq	27,162,627	12,500	36,000	.1%	188%
Jordan	5,375,307	127,300	629,500	11.7%	294.5%
Kuwait	2,730,603	150,000	7000,000	25.6%	366.7%
Lebanon	4,556,561	300,000	700,000	15.4%	133.3%
Oman	2,452,234	90,000	285,000	11.6%	216.7%
Palestine (West Bank)	3,070,228	35,000	243,000	7.9%	594.3%
Qatar	824,355	30,000	219,000	26.6%	630%
Saudi Arabia	24,069,943	200,000	2,540,000	10.6%	1,170%
Syria	19,514,386	30,000	1,100,000	5.6%	3,566.7%
United Arab Emirates	3,981,978	735,000	1,397,2000	35.1%	90.1%
Yemen	21,306,342	15,000	220,000	1.0%	1,366.7%
Algeria	33,506,567	50,000	1,920,000	5.7%	3,740%
Egypt	72,478,498	450,000	5,000,000	6.9%	1,011.1%
Libya	6,293,910	10,000	205,000	3.3%	1,950%
Morocco	30,534,870	100,000	4,600,000	15.1%	4,500%
Tunisia	10,342,253	100,000	953,000	9.2%	853.8%
Totals:	268,939,536	2,474,800	39,777,500	15.7%	1500%

Source: Internet World Stats. www.internetworldstats.com

As illustrated in the chart above, there are gross differences among countries in the Arab World in terms of internet use/access. Scholars have explained this diversity in terms of a country's per capita income, literacy rates, PC and telephone penetration rates.[15] A state's attitude towards the technology also shapes internet diffusion. For example, in the Syrian and Saudi cases in the early years of regional adoption, both of these governments initially banned the technology, greatly slowing diffusion. Only after it was clear that their populations were going to have access to the internet whether it was legal or not (through foreign dial up accounts-in the Saudi case via Bahrain, in the Syrian case via Lebanon or Jordan), did they slowly introduce the technology. Syria has, even today, a low internet penetration rate, but the rapid increase in users from 2000-2007, growing at more than 3,500%, illustrates that even if the state wants to block Internet access for its own security concerns, it cannot afford to be technologically cut off from the rest of the region and the world, mostly for economic reasons.[16]

[15] See for example Henner Kirchner, "Internet in the Arab World: A Step Towards 'Information Society'?" in *Mass Media, Politics and Society in the Middle East*, ed. Kai Hafez (Cresskill, New Jersey: Hampton Press, 2001), pp. 137-158; Edmund Ghareeb, "New Media and the Information Revolution in the Arab World: An Assessment," *Middle East Journal*, Vol 54:3 (Summer, 2000), pp. 395-418; and M. Warshauer, *Technology and Social Inclusion: Rethinking the Digital Divide* (Cambridge: MIT Press, 2003).

[16] In a recent article I highlight 9 factors which influence the Internet's diffusion in the Arab World including infrastructure, state, education, economy, location, gender, age, size, public opinion and culture. For more on how these variables shape Internet diffusion in the region see: Deborah L. Wheeler, "Digital Governance and Democratization in the Arab World."

Country	Per Capita Income (2006-7)	Internet Penetration (2007) % (pop)
Bahrain	$25,300	21%
Iraq	$2,900	.1%
Jordan	$4,900	11.7%
Kuwait	$21,600	25.6%
Lebanon	$5,500	15.4%
Oman	$14,100	11.6%
Palestine (West Bank)	$1,500	7.9%
Qatar	$29,400	26.6%
Saudi Arabia	$13,800	10.6%
Syria	$4,000	5.6%
United Arab Emirates	$49,700	35.1%
Yemen	$900	1.0%
Algeria	$7,700	5.7%
Egypt	$4,200	6.9%
Libya	$12,700	3.3%
Morocco	$4,400	15.1%
Tunisia	$8,600	9.2%

Source: CIA World Fact Book and Internet World Stats.

To show that economic prosperity is not robust enough an indicator by itself to predict internet penetration consider the chart above. Only 3 countries out of 17 have an exact correlation between their per capita income and their internet penetration rank, UAE, Qatar and Syria.

Country	Daily Newspapers per 1000 people (2002)	%Households with TV	PC's per 1,000 people	LiteracyRate % Male/Female over 15 (read and write)
Bahrain	---	---	---	91.9/85
Iraq	---	---	8	55.9/24.4
Jordan	74	97	55	95.9/86.3
Kuwait	---	95	183	85.1/81.7
Lebanon	63	93	113	93.1/82.2
Oman	---	79	47	83.1/67.2
Palestine (West Bank)	---	94	48	96.3/87.4
Qatar	---	---	---	89.1/88.6
Saudi Arabia	---	99	354	84.7/70.8
Syria	---	80	32	89.7/64
United Arab Emirates	---	86	116	76.1/81.7
Yemen	---	43	15	70.5/30
Algeria	27	98	9	78.8/61
Egypt	31	95	32	68.3/46.9
Libya	14	---	24	92.4/72

Morocco	29	76	21	64.9/39.4
Tunisia	19	90	48	83.4/65.3

The chart above shows that literacy rates as well, are not a sufficient variable with which to explain internet penetration. For example, the top four countries for Internet penetration, UAE, Qatar, Kuwait and Bahrain all fail to make it into the top four countries for regional literacy. Moreover, all four of the top countries for literacy, Palestine, Jordan, Lebanon and Lybia, rank 11th, 7th, 5th and 15th respectively for Internet penetration. This paper seeks to explore some of the contextual variables at play in shaping internet diffusion in the Arab World.

The question remains, why should we care about Internet diffusion (and other IT access) in the Arab World? Do Arabs themselves place any value on these technologies, or is their perceived value an imported concept, driven into local culture and state politics by rhetorical promises of improved human and economic development?[17] Some scholars of new media diffusion in the Middle East have argued for the importance of satellite tv over the Internet as a technology capable of re-shaping Arab identity in a mass way. They base such arguments on the assumption that more people in the region have regular access to satellite tv than to the Internet. They also argue that illiteracy is not a barrier to accessing satellite TV programming, whereas with the internet, literacy (being able to read and type) and computer literacy (familiarity with using a computer and surfing the net) are keys to successful Internet access and use. For example, Jon B. Alterman observes, "Assessing the impact of the information technology revolution in the Middle East solely in terms of internet use would be a huge mistake. A number of technological innovations are poised…to have an even greater impact in the years to come."[18] By this, Alterman means satellite tv which in 2000, he argues, "Reached an audience…between 20-30% of the region's population."[19] When compared to Internet access figures for the same year (2000), which were less than 1% for the Arab World, one can understand Alterman's point. Ambassador William Rugh, reinforcing Alterman's position, does not include the study of the Internet in his revised classic on Arab mass media, claiming that the technology "does not reach a mass audience in the Arab World."[20] Instead he focuses upon radio, television and print media.

Rather than try to rank the importance of one IT mode over another, this essay views the internet as part of a process of IT diffusion that is more widespread and important than the internet in isolation. For the sake of analytical clarity, however, this essay looks at the internet as representative of this IT diffusion process, understanding that the technology has not yet reached the critical mass that TV or radio has. Given the rapid growth rates of Internet access, however, this article argues that it is just a matter of time until the Internet will be a mass based technology. The number of internet cafes, especially in countries with supposedly low penetration rates, suggests that even for those who cannot afford a PC, or their own IP address, Internet access is available, and demand is growing. More than likely, the growth rates and % of penetration figures above fail to accurately reflect the number of internet users, especially the high percentage of the region's population that goes on line at a community access point (café or telecenter). One observer estimates that close to 80% of all Internet use in the Arab World takes place in a community access point.[21] Section 3 below explores some of the meanings of the Internet constructed by

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[17] The following quote is illustrative of the Western developmentalist rhetoric promoting IT diffusion, "Information technology has become a potent force in transforming social, economic and political life globally. Without its incorporation into the information age, there is little chance for countries or regions to develop." Nancy Hafkin and Nancy Taggart, "Gender, Information Technology and Developing Countries: An Analytic Study," (Washington, D.C.: USAID, 2001), p. 1.

[18] Jon Alterman, "Middle East's Information Revolution," *Current History*, January (2000), p. 23. Note, Alterman also discusses the importance of fax machines, photo copiers and VCR's in this article.

[19] Alterman, p. 23.

[20] William Rugh, *Arab Mass Media: Newspapers, Radio, and Television in Arab Politics* (Westport: Praeger Publishers, 2004), p. xiii.

[21] Interview with Najat Rochidi, Cairo, Eg. Aug 7th, 2004, 11:00 am, World Trade Center Building, ICT Dar Project office.

internet café users in the Arab World. These narratives suggest that it does make sense to look at the impact of the Internet on everyday citizens' lives.

Among Middle East specialists studying IT diffusion in the Arab World, high expectations and value are placed on the regional diffusion of new media technologies. For example, as Marc Lynch observes, new media (from fax machines to mobile phones, newspapers to satellite TV, the Internet and beyond) are together creating "a new kind of Arab public and a new kind of Arab politics."[22] These technological transformations are enabling citizens to construct "the underpinnings of a more liberal, pluralist politics rooted in a vocal, critical public sphere." [23] Several years earlier, Jon B. Alterman, observed, "Change brought on by [this] new technology does seem certain."[24] Dale F. Eickelman and Jon W. Anderson outline a potential explanation for what kind of change can be expected. They explain, as a result of increasing "access to contemporary forms of communication that range from the press and broadcast media to fax machines and audio-and video cassettes and from the telephone to the Internet,"[25] Eickelman and Anderson argue that "increasingly open and accessible forms of communication play a significant role in fragmenting and contesting political and religious authority."[26] The key to their argument is that "the state is powerless to limit their [new media] use without disrupting the economy."[27]

Country	Number of Internet Cafes
Bahrain	90
Egypt	400
Iraq	50
Jordan	500
Kuwait	300
Lebanon	200
Libya	700
Oman	80
Palestine	60
Qatar	80
Saudi Arabia	200
Sudan	150
Syria	600
Tunisia	300
UAE	191
Yemen	120
Morocco	2,150
Algeria	3,000

Madar Research (2002)[28]

The following pages consider two levels of analysis, the state and societal uses of the Internet to decipher the ways in which new media technologies are shaping Arab identity and politics, to see if the Internet matters, and if so for whom, and why. Augustus

[22] Marc Lynch, *Voices of a New Arab Public: Iraq, Al Jazeera, and Middle East Politics Today* (New York: Columbia University Press, 2006), p. 2.

[23] Lynch, p. 3.

[24] Jon B. Alterman, *New Media, New Politics: From Satellite Television to the Internet in the Arab World* (Washington, D.C.: Washington Institute for Near East Policy, 1998), p. 68.

[25] Dale F. Eickelman and Jon W. Anderson, New Media in the Muslim World: The Emerging Public Sphere, ed. Dale F. Eickelman and Jon W. Anderson (Bloomington: Indiana University Press, 1999), p. 1-2.

[26] Eickelman and Anderson, p. 1.

[27] Eickelman and Anderson, p. 3.

[28] Madar Research, "PC Penetration vs Internet User Penetration in GCC Countries," *Journal of Knowledge, Economy and Research on the Middle East,* 1(October, 2002), p. 1-15.

Richard Norton argues that Internet use, and other forms of horizontal communication are producing the "slow retreat of authoritarianism" in the Muslim World.[29] The Egyptian government's recent arrest and sentencing of a blogger to 4 years in prison illustrate the Arab state's calculated response to the threat of person to person forms of opposition.[30] Some Egyptian blogs publicly raise doubts about the legitimacy of Hosni Mubarak's regime. In this case the state responded with a grave punishment for the brave and vocal critic. The response is designed to intimidate would be opposition. In another move which calls into question the retreat of the state in new media environments, is the government's recent call to revise the Egyptian constitution in order to extend the powers of the presidency.[31] The vote was boycotted, rigged, and interpreted as the worst violation of human rights in the past 26 years of Egyptian politics.[32] The new legislation, which passed, with "overwhelming public approval," gives Hosni Mubarak the legal right to "dissolve parliament without holding a referendum, to suspend civil protections in cases the president deems associated with terrorism and to limit the role of judges in monitoring future elections"[33] This expansion of state power comes as Internet use in Egypt has expanded more than 1,000% over the past 7 years. This situation in Egypt illustrates the complexities of determining how and why the Internet matters in the Arab World. Mixed messages are ripe in the region, as states expound the values of the Information Age for their societies, their commitment to democracy, and openly acknowledge the need for reform;[34] at the same time that they arrest citizens for openly criticizing regimes and resist the tides of reform by more heavily entrenching state power and controls over public life. Making some sense of these mixed messages is the goal of the following sections.

2. Arab States and the Internet: Friend or Foe? A top down approach to the Internet and its meaning.

The fact that Bill Gates, a software engineer, is the richest man in the world (12 years running), having a net worth of 56 billion dollars (2007 Forbes est.), while more than 300 billion people in the world live on less than 2 dollars a day, illustrates the growing gap between rich and poor, in part created by the information revolution.[35] Concern over this kind of have and have not system being exasperated by the advent of internet led globalization and the rise of the knowledge economy, created a fundamental transformation in international aid policy, Arab state economic policy (at least in theory or at the rhetorical level) and the perceived value of IT locally (in the Arab World) and beyond. The goal of stimulating IT led development is a common feature of regional leaders' speeches, official documents, projects etc…For example, King Abdullah of Jordan on his official web site states:

> Jordan is rapidly emerging as a hub for technology investment in the region. E-leadership through a strong public-private sector partnership, an educated and talented workforce, local and foreign direct investment, and world-class infrastructure are enabling the development of a competitive Information and Communications Technology (ICT) industry.

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[29] Augustus Richard Norton, "The New Media, Civic Puluralism, and the Slowly Retreating State," in *New Media in the Muslim World: The Emerging Public Sphere*, p. 27.

[30] Associated Press, "Egypt: 4-Year Sentence for Blogger Upheld," *New York Times,* 13 March 2007, p. A6

[31] Michael Slackman, "Egypt to Vote on Expanding Powers of the Presidency," *New York Times*, 25 March, 2007, p. 11.

[32] Michael Slackman, "Foregone Conclusion Appears to Keep Egyptian Voters Home," *New York Times*, 27 March, 2007, p. A7.

[33] Michael Slackman, "Charges of Vote Rigging as Egypt Approves Constitution Changes," *New York Times*, 28 March, 2007, p. A5.

[34] See for example, "Opening Speech by President Hosni Mubarak to the Arab Reform Conference" in Alexandria Egypt 12 March, 2004 (available on-line at http://www.al-bab.com/arab/docs/reform/mubarak2004.htm. Accessed 22 April, 2007 and Al-Jazeera, "Arab Ministers Clash over Reform," 29 March, 2004, (available on-line at http://english.aljazeera.net/English/archive/archive?ArchiveId=2722. Accessed 22 April, 2007.

[35] Anup Shah, "Poverty Facts and Statistics" accessed on-line 4/4/2007 at http://www.globalissues.org/ TradeRelated/Facts.asp.

According to the web site, the King and his advisors identified that,

> 'information' had become a source of wealth in its own right, and immediately set out to enable industries associated with the manipulation, storage, transmission, or retrieval of information, better known as ICT. As a nation with little 'natural resources', the focus of King Abdullah II was to leverage Jordan's qualified 'human resources' to work for the creation of knowledge based industries.[36]

In the UAE, the country with the highest internet penetration in the region (35.1%), information technology has been viewed by the state as a path to economic development. Epitomizing this strategy are the Dubai Internet City project and the Media Free Trade Zone. Both of these Dubai based IT and economic development initiatives have "attracted both venture capitalists and foreign direct investment in industries related to information technology."[37] At the societal level, the UAE has worked to introduce youths to IT and computing from a young age. The UAE's 2007 Yearbook explains that it is a part of government education policy to spur IT awareness and economic development through education. For example, the Yearbook explains, "one of the government's goals is to provide a computer for every 10 children in kindergarten, every 5 pupils in primary schools, every 2 students in preparatory school and one computer per student at university."[38]

Egyptian President Hosni Mubarak has been an advocate for his country's IT revolution, and has sought to expand the role of Egypt as a regional IT hub, competing with Jordan and the UAE for foreign direct investment in the IT sector. In 2000 Husni Mubarak made an official visit to the United States designed to create greater cooperation between the IT sector in the US and Egypt. During his visit, the President of Egypt chose to release the following speech to the American people via the AOL server. He observes,

> Egypt, as one of the world's fastest growing markets for the Information industry, promises unlimited potential of cooperation with the United States in this field. I therefore chose to extend this digital message directly to the American people through the largest online community in the world, to highlight some of Egypt's views on the Information age.

To expand on those views, President Mubarak in his letter to the American people observes:

> The technology that portrays itself to be global needs to be truly so not only in terms of reach, but more importantly in terms of equal access and mutual benefit. That is not necessarily the case in many instances; which lays down a salient task to be undertaken by the world community, as a whole. These new technologies need to be geared towards the advancement of the developing world. The countries, previously known as the Third World, can not afford to miss what is currently known as the Third Wave. Every effort must be made to utilize the new technologies to support leapfrog development strategies. Technology transfer is the only vehicle to make sure that the world, now coming together by technology, does not fall apart by inequality and the neglect of the basic needs of the world's poor.[39]

Egypt made its commitment to building an IT revolution along the Nile transparent when Ahmad Nazif, former Minister of Communication and Information Technology was made Prime Minister during a summer of 2004 cabinet reshuffle. In spite of these changes and strategies, Egypt remains a country with severe development challenges including growing poverty, unemployment, a youth bulge, one of the highest illiteracy rates in the region, and increasingly vocal opposition movements. Egypt also has an internet penetration level of only 6.9%. The fact that, as discussed below, Egypt is one of 5 Middle Eastern countries listed on the "Internet Enemies" list also calls into question the sincerity of the state's commitment to empowering all Egyptians with IT.

In spite of the rampant and elative state rhetoric regarding the celebrated powers of the Internet and other information technologies, what has lagged in the region is the delivery on promises for real change in the structure of wealth and power in Arab societies.

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[36] King Abdullah of Jordan, official web site. "Introduction to IT Development" available at http://www.kingabdullah.jo/main.php?main_page=0&lang_hmka1=1 Accessed 24 April, 2007.

[37] Lisa E. Rosenthal, "Information Technology in the UAE" available on-line at http://www.american.edu/carmel/lr2962a/geographics.html

[38] "IT and Education," in *UAE Yearbook 2007*, p. 11. Available on-line at uaeinteract.com/uaeint_misc/pdf_2007/English_2007/eyb5.pdf

39 "A Message from His Excellency President Mohammed Hosni Mubarak of Egypt. Reston, Virginia March 27, 2000 as posted via America OnLine" Middle East Information Network, http://www.mideastinfo.com/documents/Mubarak_letter.htm. Accessed 24 April, 2007.

In most cases, the Arab state (and in the case of the Gulf, oil rents and the state) remain a barrier to a free, independent information enabled entrepreneurial class, a fact which has slowed the progress and possibilities of human development and the information revolution in the Arab world. For example, in 2000, Egypt's e.government project made it possible to order train tickets on-line and to download and print the documents needed to renew one's driver's license. In Jordan, in 2004, the government, in partnership with Intel Corporation was rolling out a high profile initiative called the e.Education project. The idea was to create a series of "discovery schools" throughout Jordan, with each school wired to high speed bandwidth and operating an e.math, e.science and other e. based curricular transformations. While all of this may sound like progress, in actuality what it produces is a confusing gap between state rhetoric and social impact. Raising a child's knowledge of computing does not solve the problem of extremely high youth unemployment;[40] moreover, being able to order train tickets on-line is only useful for those elite few who own a computer, a printer, a phone line, an internet connection, and need to (and have the means to) ride by reserved train coach.

It is not by accident that Arab states commonly look to Singapore, China and other Asian Tigers for inspiration for their IT led economic goals. It is not uncommon to hear Jordan, for example, refer to its development goals and transition to the information economy as a desire to become the Singapore of the Middle East.[41] In Asia, high human development has been achieved, without democratization. Contrary to the Washington Consensus, political liberalization does not have to precede or accompany economic liberalization, as the case of Singapore illustrates. In fact, when one looks at Asia, countries like Indonesia and India which are both politically and economically liberal, they are both near the bottom of the human development index. The goal of the Arab state has been to use IT as a tool for enhancing economic growth opportunities, while at the same time maintaining a tight grip on society's use of the Internet for political change. The chart below reveals the success of this strategy.

Country	Internet Penetration (% of pop)	Regional Rank Internet Pen.	Freedom House Rating (Free, Part. Free, Not Free)	Human Dev. Index Rank 1-177. (2006)	HDI Rank 1-177 (2002) 1 is best.
UAE	35.1	1	Not Free	49	49
Qatar	26.6	2	Not Free	46	47
Kuwait	25.6	3	Partially Free	33	44
Bahrain	21	4	Partially Free	39	40
Lebanon	15.1	5	Partially Free	78	80
Morocco	11.7	6	Partially Free	123	125
Jordan	11.7	7	Partially Free	86	90
Oman	11.6	8	Not Free	56	74
Saudi Arabia	10.6	9	Not Free	76	77
Tunisia	9.2	10	Not Free	87	92
Palestine (WB)	7.9	11	Not Free	100	102

[40] ESCWA, "Youth Unemployment in the ESCWA," paper prepared by the Economic and Social Commission for Western Asia for the Youth Employment Summit, Alexandria, Egypt, September 7-11, 2002. Available online at http://www.un.org/esa/socdev/poverty/papers/youth_unescwa.pdf. Accessed 22 March, 2007.

[41] To see the institutionalization of this relationship see Irene Ang, "Jordan and Singapore Sign a Free-Trade Pact," Bilaterals.org 17 May, 2004. http://www.bilaterals.org/article.php3?id_article=142. Accessed 22 April, 2007.

Egypt	6.9	12	Not Free	111	120
Algeria	5.7	13	Not Free	102	108
Syria	5.6	14	Not Free	107	106
Lybia	3.3	15	Not Free	46	58
Iraq	.1	17	Not Free	N/A	N/A

(Source: Internet World Stats (www.internetworldstats.com), Freedom House (www.freedomhouse.org), and UNDP

The two countries with the highest level of internet penetration, UAE and Qatar are rated by Freedom House as "not free." These two countries are also relatively high on the human development index rank for the region (the highest rank being Kuwait at 33rd place globally) with scores of 49th and 46th respectively. This table suggests that there is a freedom gap in the Arab World, in spite of the growing spread of the Internet.[42] The governments in the region have been able to run the IT "revolution" as they please, adding information capabilities to a growing percentage of the population, attracting new economic investment, while at the same time retaining a tight grip on the reins of state power. Economists argue, however, that if the region is going to continue to grow, it is going to have to allow for more freedom, at least for the potential entrepreneurs. We can see an argument for this position emerging in terms of the gap between per capita income and human development rankings, with there being more income than development in several prominent cases. The most recent *World Competitiveness Report* observes,

> Today, the Arab world is at a critical juncture. The region's economies are currently very dynamic and offer tremendous business opportunities; there is no doubt that improvements to national competitiveness and closer integration with the global economy and within the region are necessary if this growth momentum is to be sustained.[43]

The 2007 version of the report stresses the necessity for

> A profound change in mindsets to realize the region's full potential. Entrepreneurship, an element that is often cited as the key to unlocking the potential of the Arab economies, can only take root in societies where freedom of thought, enthusiasm for inquiry and critical thinking are popular values.[44]

A tension clearly exists in the Arab World between the concepts of freedom, security and economic growth. These tensions reveal themselves in statistics and reports and are made increasingly complex by the diffusion of Internet techniques. How can a country like the United Arab Emirates with a per capita income of $49,700, higher than Norway's ($47,800), have a human development ranking of 49th globally (while Norway is 1st for 5 years in a row)? Is Norway's respect of freedom of thought, critical thinking and entrepreneurialism, its firm commitment to gender equality and building the information society the reason? Will increasing access to the Internet and other potentially empowering communication technologies shift this tide in the Arab World? For the past 10 years I have been watching and waiting for such changes. What I have gathered, as explored below, is that a growing critical mass of dissenting voices is challenging restrictive political and social practices in the Arab World. One analyst calls this discursive shift the emergence of "A new Arab conversation" which "reflects a new culture of openness, dialogue and questioning."[45] Gal Beckerman continues,

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[42] A recent Arab Human Development Report provided substantial evidence to support the argument for a freedom deficit in the Arab World. United Nations Development Program, *Arab Human Development Report 2004, Freedom and Good Governance* (Stanford: Stanford University Press, 2004).

[43] Klaus Schwab, Founder and Executive Chairman of the World Economic Forum. Quoted in Arab World Competitiveness Report Press Release, 2007 online version accessed 15 April, 2007 (http://www.weforum.org/en/media/Latest%20Press%20Releases/AWCReportPR.

[44] Sherif El Diwany, Director, Middle East , World Economic Forum, quoted in Arab World Competitiveness Report 2007 Press Release, online version accessed 15 April, 2007 (http://www.weforum.org/en/media/ Latest%20Press%20Releases/AWCReportPR.

[45] Gal Beckerman, "The New Arab Conversation" Columbia Journalism Review, January/February 2007, p. 1. on-line version available at http://www.cjr.org/issues/2007/1/Beckerman.asp. Accessed 22 April, 2007.

> Whether it is a Jordanian student discussing the taboo subject of the monarchy's viability or a Saudi woman writing about her sexual experiences or an Egyptian commenting with sadness at an Israeli blogger's description of a suicide bombing, each of these unprecedented acts is one small move toward opening up these societies.[46]

Part of what makes this picture complex is the way in which the Arab state puts security above freedom, and in the end, above economic growth and entrepreneurialism. Jordan may have its REACH initiative[47], which is designed to spur ICT led development in Jordan, but this does not mean that the state is not above using its coercive power to stop citizens from adapting technologies that are good for business, to technologies which empower oppositional imaginations. In Jordan, in spite of clear state efforts to build an economically motivated information society, with a thriving ICT industry, citizens still face prison time if they publish things "considered 'harmful to the country's diplomatic relations' or to do with the king and the royal family."[48] Similarly, in Egypt, "a national plan developed by the Ministry of Information and Communication Technologies" attempts "to link national development with global forces using ICT's." [49] At the same time, Egypt, as indicated by the chart below, remains one of 5 Middle Eastern countries on Reporters without Borders "List of Internet Enemies," defined by the organization as "a roll of shame reserved for countries that systematically violate on-line free expression."[50]

Country	Free Expression Violations
Egypt	"Three bloggers were arrested in June 2006 and were held for two to three months for calling for democratic reforms. Others have been harassed, such as Coptic blogger Hela Hemi Botros, who was forced to close down her blog in August under pressure from the police. Finally, a Council of State administrative court recently ruled that the authorities could block, suspend of close down any website likely to pose a threat to 'national security.' This could open the way to extensive online censorship."[51]
Iran	"Repression of bloggers seems to have declined in 2006. Whereas around 20 were imprisoned in 2005, only Arash Sigarchi is in jail at the moment. But Internet filtering has stepped up and Iran today boasts of filtering 10 million "immoral" websites. Pornographic sites, political sites and those dealing with religion are usually the ones most targeted. But since the summer of 2006, the censors have concentrated on online publications dealing with women's rights. The authorities also recently decided to ban broadband connections. This could be explained by a concern not to overload the very poor-quality Iranian network,

[46] Beckerman, p. 2.

[47] "Jordan IT Industry to Launch the REACH Initiative," Jordan Times, 11 July, 2000, on-line version available at http://www.jordanembassyus.org/07112000003.htm. Accessed 22 April, 2007. See also, "Saheer al-Jaghoub and Chris Westrup, "Jordan and ICT Development."

[48] Reporters without Borders, Annual Report 2007, available on-line at http://www.rsf.org/article.php3?id_article=20765&Valider=OK. Date Accessed, 22 April, 2007.

[49] Heba El Sayed and Chris Westrup, "Egypt and ICT's: How ICTs bring national initiatives, global organizations and companies together." *Information Technology and People*, Vol 16;1 (2003), pp. 76-92.

[50] Reporters Without Borders, "List of 13 Internet Enemies in 2006 Published," 11 July 2006, p. 1. On-line version available at http://www.rsf.org/print.php3?id_article=19603. Date accessed 22 April, 2007.

51 Reporters Without Borders "List of the 13 Internet Enemies in 2006" (www.rsf.org); all passages for this chart are adapted from this publication.

	but it could also be motivated by a desire to prevent the downloading of Western cultural products such as films and songs."
Saudi Arabia	"Saudi Arabia does not hide its online censorship. Unlike China, where website blocking is disguised as technical problems, Saudi Arabia's filters clearly tell Internet users that certain websites are banned. Censorship concentrates on pornographic content, but it also targets opposition websites, Israeli publications, or sites dealing with homosexuality. Blogs also pose a problem to the Saudi censors. Last year they tried to completely block access to the country's biggest blog tool, blogger.com. But they backed off a few days later and now they just block the blogs that are deemed unacceptable. In June of this year, for example, the intimate diary of "Saudi Eve," a young woman who dared to talk about her love life and criticise government censorship, was added to the blacklist."
Syria	"Syria is the Middle East's biggest prison for cyber-dissidents, with three people currently detained for criticizing the authorities online. They are systematically tortured and subjected to inhumane conditions. The government bans access to Arabic-language opposition sites and sites dealing with Syria's Kurdish minority."
Tunisia	"In 2005, Tunisia had the honor of hosting the World Summit on the Information Society (WSIS), a big UN event about the Internet's future. Yet President Zine el Abidine Ben Ali's Internet policies are among the most repressive in the world. All the Internet cafes are state-controlled. They filter web content and are under close police surveillance. It is, for example, impossible to access the Reporters Without Borders website from inside Tunisia. The security services also constantly harass independent bloggers and opposition website editors to ensure that self-censorship prevails. One cyber-dissident, Mohammed Abbou, has been imprisoned since March 2005 for criticizing the president in an online newsletter."

Source: Reporters Without Borders "List of the 13 Internet Enemies in 2006" (www.rsf.org)

The fact that the top 20 countries on the Human Development Index are ALL democracies provides a convincing case for the importance of freedom to economic and social development. If Arab states wish to take full advantage of the global economy they will have to change their policies of attempting to muzzle opposition and manipulate economic opportunity so as to co-opt the entrepreneurial class.[52] Both freedom of expression and freedom to innovate are keys to building an information economy.

[52] *Networks of Privilege in the Middle East: The Politics of Economic Reform Revisited*, ed. Steven Heydemann (New York: Palgrave/Macmillian, 2004)

3. Blogs and Chat: Arab societies's Internet use and local constructions of meaning

a. The Arab Blogosphere

In spite of state attempts to control information environments in the Arab World, the following section demonstrates the ways in which Internet access is shaping public life, facilitating critical thinking, free thought, and entrepreneurialism. Participants in this social "revolution" are aware of power of these contestations to shape identity, even if institutions, especially those of the state, are proving impervious to such public interventions. Ahmed Zewail, an Egyptian scientist and Nobel Lauriat recently described how the Internet was creating a pathway towards Muslim renaissance. He explains,

> Now, with the Internet, ambitious young people in Egypt or Morocco can go to the Internet cafes and see what is going on in Los Angeles or Kuala Lumpur--or even Qatar, which now has a GDP per capita close to the US--but they can't seem to get it [income] themselves. That feeds their frustration. When we can convert that frustration into positive energy, there will be hope for the young Arab Muslims who now see a different future.[53]

Imagining, discussing, and implementing a new future for the Arab World is the goal of many regional bloggers. From all across the political spectrum, young Arabs narrate their visions for a new Middle East. For example, Egyptian blogger Abdul-Moneim Mahmud, whose blog is called Ana Ikhwan (http://www.ana-ikhwan.blogspot.com) reports "arbitrary arrests and acts of torture by the [Egyptian state] security services" as a way to criticize the excesses of state coercion. He was arrested by Egyptian authorities on 14 April 2007.[54] Similarly, Egyptian Abdel Kareem Nabil Suleiman has used his blog http://www.karam903.blogspot.com to "condemned the government's authoritarian excesses."[55] He was recently arrested for his outspokenness. Another Egyptian blog, "From Cairo with Love," explains the importance of blogs when the author observes,

> Its really different to read a piece of news, opinion, or thought on a weblog than on a 'traditional' news site. The difference I guess is that they mostly reflect personal opinions, provide lots of freedom for everyone to voice their opinion, and to hear opinions and news those are not channeled through mainstream media. They also allow for contribution where everyone is actually contributing to the news delivery.[56]

In terms of the regional impact of blogging, Gal Beckerman explains that in the Arab world:

> The historical and the personal slam up against each other daily…This gives even mundane musings elevated significance. Bloggers are writing about their lives. But those lives are taking place in environments in which politics and history cannot be perceived as mere elements on the margins. For the twenty-somethings growing up in Riyadh, writing resentfully about the power of the religious authorities, the questions are fundamental ones about the state of her society. For the Egyptian blogger, the brutal suppression of a demonstration can make the difference of whether he chooses to stay in the country or leave. This urgency makes the commentary more complex and interesting.[57]

When thinking about the meaning of blogs in the Arab World, obvious questions emerge. Who is blogging? How widespread is blogging? Do blogs have any political significance? Are they instituting the "slow retreat of the state?"[58] While data is not really available to answer these important questions at this stage, some initial responses can be obtained by looking at regional and local portals, and by doing some content analysis of the blogs themselves.

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53 Ahmed Zewail, "Roadmap to a Muslim Renaissance," New Perspectives Quarterly, Fall 2004, on-line version accessed 3/27/2007 at:
http://www.globalwebpost.com/farooqm/study_res/zewail/zewail_interview.html

54 A full narrative of his arrest is available on-line at
http://www.manalaa.net/monem_arrest_timeline.

55 Reporters Sans Frontieres, "Blogger Arrested and Held for Reporting on Torture of Detainees," 17 April, 2007. Available on-line at http://allafrica.com/stories/printable/200704180322.html.

56 From Cairo With Love, "The Blogging Effect," 11 February 2005.
(http://fromcairo.blogspot.com/2005/02/blogging-effect.html) Accessed 22 April, 2007.

57 Beckerman, p. 4.

58 Norton, p. 27.

Country	Blog Portal
Bahrain	http://bahrainblogs.org
Kuwait	http://kuwaitblogs.com
Saudi Arabia	http://saudiblogs.blogspot.com
Jordan	http://jordanplanet.com
Egypt	www.omraneya.net http://www.egybloggers.com
Palestine	http://palestineblogs.org
Syria	http://www.syriaplanet.com
Lebanon	http://lebanesebloggers.blogspot.com
United Arab Emirates	http://secretdubai.blogspot.com
Yemen	http://dir.blogflux.com/country/yemen.html
Oman	http://bloggers4oman.blogspot.com
Pan-Arab	http://itoot.net
Pan-Arab	http://meastpolitics.wordpress.com

The initial results of this investigation suggest that blogging is new, but gaining momentum. In its present state, it seems mostly to be young people who blog, and these young people seem to be mostly urbanites. Moreover, their blogs reveal that they are generally from the regional upper classes. There are strategies to translate blogging into a vehicle for political change, as evidenced by "meet-ups" and strategies to take blogging to the grass roots. Moreover, blogs are increasingly quoted in the world media and even presidential speeches, as "authentic" voices from the region and representative of views beyond state propaganda. All of these indicate something about the potential of blogging, even if we are not yet seeing the retreat of the state. In his book the Politics of Small Things, Jeffrey C. Goldfarb examines "the power of the powerless in dark times" by observing that "daily life shapes the economy, the polity and civilization itself." His text is an exploration of the ways in which "people make history in their social interactions."[59] In some small ways, bloggers are making history with their narratives. Through their blogs they are creating new forms of social interaction, and expanding the realm of public discourse to include open, frank, and challenging narratives. When bloggers overstep certain boundaries of the permitted, they are publicly punished in disproportionate ways. The brutality of the Arab State in these matters is both a demonstration of its monopoly on the use (not necessary legitimate) of coercive resources to preserve the status quo. At the same time, this extreme response to freedom of expression and public opposition to the status quo reveals the precarious nature of the state's monopoly on power. Hanna Arendt observed several decades ago, that when states have to resort to violence, torture, repression, this is when legitimacy has died, and power is on the wane. Blogs reveal to us the process through which "members of subordinated social groups invent and circulate counterdiscourses to formulate oppositional interpretations of their identities, interests and needs."[60] The question remains, how will these counter-narratives be institutionalized, if at all? Do they matter? As one analyst observes, "the jury is still out on whether online opposition will transform into social and democratic reform in the Middle East."[61] The following section demonstrates how Internet access matters in the lives of Internet café users, most of whom are from the middle to lower classes.

b. Internet Café Users in Jordan and Egypt

[59] *Politics of Small Things*, p 1

[60] Nancy Fraser, "Rethinking the public sphere: A contribution to the critique of actually existing democracy," in *Habermas and the public sphere*, ed. Craig Calhoun (Cambridge: MIT Press, 1992), p. 123. Quoted in *Counterpublics and the State*, p. 7.

[61] Associated Press, " Blogs Transform Middle East Social Dialogue" available on-line at www.msnbc.msn.com/id/17070982 . Accessed April 26th, 2007.

The data analyzed for this section was collected during 5 months of internet cafe research in Jordan and Egypt January 2004-May 2004. The goal of this study was to uncover whether or not the Internet was an important part of everyday life for the average, or below average citizen in the Arab World. Also key in the study was to identify the ways in which the internet mattered to their lives. Those interviewed were not prompted to think of the Internet as a political tool. Rather, they were asked, in an open ended fashion, to narrate "How and if the Internet had changed their lives?" The answers to this question in particular provided a rich canvas against which to understand the draw of the lower and middle classes to the technology. Together, their responses tended to coalesce around one of 3 main themes—1) Developing a political consciousness 2) Building social networks and knowledge capital and 3) transgressing boundaries broadly defined (especially lines of gender, nation and social class). Each of these themes, and a selection of the narrative samples which created them, are examined in more detail below.

By conducting interviews in internet cafés, this study provides windows on the "grass roots" of internet use in the region. This approach takes the focus away from the cosmopolitan elite, and replaces it with views from the lower and middle classes. In general, the data gathered for this case study suggests that individuals who use internet cafes as their main source for access don't have a computer and Internet access at home. If they are employed (many are not) and have access at work, they are not high enough on the hierarchy to be able to use the technology freely (for personal use). Moreover, many internet café users do not use the technology in their work environments (carpenters, sales people in small and medium sized enterprises (SMEs), tea boys, students, customer service representatives, housewives), nor do they typically have any formal training in using computers. Internet café users in Jordan and Egypt tend to have learned to use the technology in an internet café, and they tend to be taught to use the tool by a family member or a friend. In most cases, these café users have subsequently taught a friend, family or community member to use the internet, thus demonstrating a form of civic engagement whereby knowledge once attained is shared with others through informal networks. Moreover, many became internet users to reduce the costs and increase the likelihood of staying in touch with friends and family members, especially when individuals in their kin and care networks are abroad. Many internet café users in Jordan and Egypt are not educated beyond the high school level, and most are not on-line to transact business. Most are not comfortable using English, and surf web sites or chat mainly in Arabic. According to the participants, the most intense draw of the technology is its ability to transport them to places they could not go otherwise. As examined below, the technology is celebrated by internet café users in Jordan and Egypt because it enables them to act more freely, in conversations, and in building networks beyond carefully circumscribed boundaries, which govern the practice of everyday life beyond cyberspace. One 24 year old female internet café user from Jordan epitomized the region's enthusiasm for the technology when she observes, "it's the best thing that ever happened to me." (Interview, Jordan internet café, March, 2004).

One form of internet enabled political maneuver in the Arab World is the attempt to use the technology to circumvent and transgress gender boundaries. For example, a recent study of the impact of the internet in Saudi Arabia observes, "Saudis are poised on the edge of a significant new social landscape," because "new forms of private communication, like electronic mail and chat, but also online public discussion areas…for the first time enable communication between males and females in this gender-segregated society."[62] Recent studies of the Internet in Kuwait support Saggaf's findings, suggesting that in the conservative Gulf, it is the politics of gender which are most easily transgressed and subverted online.[63] As explored below, internet café users in Jordan and Egypt also discuss

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[62] Yeslam al-Saggaf, "The Effect of Online Community on Offline Community in Saudi Arabia," Electronic Journal of Information Systems in Developing Countries (2004) 16, 2, p. 1.

63 Deborah L. Wheeler, "New Technologies, Old Culture: A Look at Women, Gender and the Internet in Kuwait," in Culture, Technology, Communication: Towards an Intercultural Global Village, ed. Charles Ess and Fay Sudweeks (New York: SUNY Press, 2001), pp. 187-212, and "Blessings and Curses: Women and the Internet Revolution in the Arab World," in Women and the Media in the Middle East, edited by Naomi Sakr (London: IB Taurus, Sept, 2004), pp. 138-161.

the importance of the internet for enhanced gender freedoms. For example, A 24 year old female internet user from Zarqa observes,

> Through the internet, I got to know many girls and made many good female friends in Amman and Madaba. I also made a relationship with a man that was my friend in chat. I became more open minded and less conservative since I started talking with people in chat. (Interview, Jordan Internet Café, March, 2004)

A second example of the internet's transformative powers is demonstrated by the technology's ability to enable the sharing of political ideas and opinions publicly, beyond face-to-face trust networks among family and friends. For example, one 27 year old female internet café user from Cairo observes,

> I love the Internet. It has made a huge difference in my life. It is a world of its own, and it has its own particular charms including abundant information, the chance to know people from all over the world, having all kinds of discussions from politics to social issues to religious debates…It is interesting to chat and to make friends. I like talking to foreigners. I am not that keen on the closed Arab mentality. I like people who are themselves in chat…no masks. In person they have to put on masks. (Interview, Cairo Internet Café, May, 2004)

Finally, in the Arab World the internet, in addition to creating more outspoken citizens, is also expanding their knowledge and social capital. For example, 38 year old married Muslim female from Zarqa says the internet, "gives her greater access to more news." (Interview, Jordan internet café, February 2004) Similarly, an internet café manager in Zarqa claims that the internet, "has given people access to unlimited information about everything for study or business or news, especially news that is not covered well on TV or radio." (Interview, Jordan internet café, January, 2004). The net effect of this wider access to uncensored information, according to a Jordanian internet café manager, is that "the internet educates people, adds to their general knowledge and information." The interviews also highlight more specific forms of knowledge acquisition. For example, an Internet café manager, in Zarqa, Jordan observes of his 200-300 customers per week, "their use of the net improves their English" (Interview Jordan internet café, March, 2004). This perspective is validated by 18 year old female Muslim high school student from Zarqa who observes, "the internet improved my English language." An 18 year old Muslim male from Jordan agrees. He claims, "the Internet benefited me in using and advancing my English language from chatting" (Interview, Jordan internet café, March, 2004).

In Cairo, internet users as well celebrated the tools ability to improve their English. For example, a 22 year old Christian male explains,

> I have a good time on the net. I enjoy every minute. It helps me greatly with my research papers and for any info for my hobbies and interests. My English has improved a great deal since I started chatting with foreigners. I learned many new words, good and bad. It's better than any language center!! (Interview, Cairo internet café, May 2004).

A recent study of youth employability explained that having knowledge of English and computer use greatly effects job placement, as well as job status.[64] If this is true, then honing these skills in internet cafes can advance the social status and employment opportunities for youths who may be denied such skills previously, because they were only afforded government education where foreign language and IT curricula are weak.

While it is clear from the 250 interviews with Internet café users in Jordan and Egypt that major changes in their everyday life are accorded by internet use, we are still left wondering if any kind of significant political change will emerge, in the face of authoritarian control. From engaging a global cyber public in political debate to building networks of influence and opportunity beyond one's structural position (defined by nation, tribe, religion, class, gender) internet access is linking communities of people regionally who are becoming accustomed to having an opinion, who are increasingly comfortable in making demands, who are growing accustomed to exercising agency to create change in their circumstances, and who are experimenting with other ways of being heard and seen in politics. All of these forms of experimentation illustrate ways in which the internet

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[64] Ghada Fakhry Barsoum, *Jobs for 'Wilad al-Nas' The Jobs Dilemma of Female Graduates in Egypt.* Thesis submitted to the Department of Sociology, Anthropology, Psychology and Egyptology, American University in Cairo, June, 1999.

precipitates civic culture in unexpected locations. But the question remains, will the state be forced (or encouraged) to retreat? Or will it lash out, violently and repressively to maintain the status quo. The following begins to suggest an answer:

Arab State Attempts to Discourage Cyber-dissidence.

Country	Arrest	Charge
Tunisia	Zohair al-Yahyaoui, Journalist	Arrested June 4th, 2004 and sentenced to 28 months in prison for "disseminating false news" on the Internet through his web site TUNISIANE
Bahrain	Galal Olwi	Arrested in March of 1997 and detained for 18 months. The charge was sending information via the Internet to the Bahraini opposition, "The Bahrain Liberal Movement."
Algeria	Ahmed Fattani, Journalist	Arrested on the 13th of October, 2003 for "posting articles online while the paper he edited, Expression, was officially suspended."
Egypt	Ashraf Ibrahim, and 4 other members of a "revolutionary socialist movement" which he runs.	Arrested on April 19th, 2003, released on March 11th, 2004. The group was using the Internet to publicize human rights violations, especially against the Copts. While acquitted, the charges against them were "trying to undermine the state by sending false news to foreign organizations"
Syria	Abdel Rahman Shagouri	Arrested on the 23rd of February, 2003 for emailing a newsletter Lavant News from the banned web site www.thisissyria.net. He is still being held on charges that he "endangered Syria's reputation and security.

(Adapted from Reporters without Borders, 2004)

These imprisonments are widely reported in the local media, and discussed via word of mouth. They serve to remind citizens that the government is watching what they do online, reminding them to self censor any questionable behavior…from surfing pornography, to logging on to banned sites, or distributing news without a license. At the same time, the forces of globalization are powerfully at work on Arab States. It is not possible for the knowledge economy to take root, grow and spread opportunity without more open information environments emerging. So, the economic incentive to foster a culture of discursive openness is strong in Arab societies. One cannot but help to think that the evident steps towards a more democratic politics in the region, as evidenced by recent elections in Iraq and Palestine, democratic reforms in Jordan, Bahrain, Qatar, and Egypt,

and huge public demonstrations both for and against a Syrian presence in Lebanon, are not somehow enabled by and enabling new communications environments.

Conclusion

The persistence of Arab state attempts to police cyberspace, to publicly punish cyber dissidents who go too far with their new freedoms of expression, and to filter the web give pause to optimism and temper expectations for institutionalizing political change in the region. But one cannot help but think that the state is ultimately fighting a losing battle. The global pressure to join the knowledge economy means that states in the region can no longer afford to keep their publics digitally muzzled and blindfolded. Future economic opportunities in the region will be built upon the backs of entrepreneurs, and agents bent upon creating change through and with digital technologies. And in part, such changes will be constructed out of the voices and visions of those trained to use digital technologies in the pursuit of economic growth. Just as in the past it has proven difficult to liberalize without democratizing, in the same way, it is hard to sustain freedoms to be creative and entrepreneurial economically, while at the same time, keeping these same concepts and tools from being used to re engineer political and social life, from the family, to the community, to the state. As A. Richard Norton has observed, "Programs of liberalization are not easily contained: as press controls are loosened, demands for accountability emerge. Controls on associational life may be selectively lifted. But, even so, the right to organize freely is hard to contain."[65]. We see similarly that internet experimentation can help to foster a political consciousness and civic engagement, the tides of which states are unlikely to control fully. It seems reasonable to expect that like other contexts (Indonesia, China, and Latin America) life on-line will have spill over effects on the practice of everyday life.

[65] Augustus Richard Norton, "Associational Life: Civil Society in Authoritarian Political Systems," in *Area Studies and Social Science: Strategies for Understanding Middle East Politics,* ed. Mark Tessler (Bloomington: Indiana University Press, 1999), p. 37.

CLOSING SESSION CONFERENCE

The special effect of issue-affectedness. On being sensitive to the normative charges of networks

Noortje Marres

In recent times, the concept of the network has served as a heuristic for deflating the normative dimensions of social life. It has assisted in the marginalization of notions like 'class', 'domination' and 'discipline' as it opened up a world that is no longer troubled by a constitutive problematics, but consists of an open-ended set of lateral connections. However, an earlier theoretical tradition, namely American Pragmatism, in a sense made the opposite move: it placed networks at the center of social theory in order to account for the social problems of technological societies. Thus, John Dewey argued that to develop a grasp of the challenges of industrial life, we must focus on the everchanging distributions of effects of industry, migration and innovation that keep disrupting social life. In this talk, I will take the pragmatist commitment to do justice to this dramatic dimension of industrial life as a starting point for formulating a few requirements for network theory. Firstly, I will discuss the importance of not distinguishing too strictly between various types of networks (transport, communication, and substance flows). As actor-network theory has suggested, it is precisely out of the interferences among heterogenous connections that issues arise. Secondly, I will highlight one modality of connection in particular, that of affect. Importantly, pragmatism suggested that social problems are articulated in events, in which distributed actors are demonstrably affected by an issue. This raises the question of how, in such events of 'issuefication,' social ties become charged with this affect of issue-affectedness. Finally, I discuss the ambivalence of networked forms of issue formation. As affective charges may not translate into anything else, due to the unreliability of network connections, issue-affectedness may easily turn into a deception to be resisted.

Requests, Recommendations and Standards: RFC10 and reflexive engineering.

Matthew Fuller

Cultural theory is always looking to find that moment when it can say , 'Ha! This engineering stuff, it has an embedded cultural predeterminations, we will be the sweet angels who reveal them'. RFC 10, a foundational document in the development of the Internet is a set of rules of thumb for the discussion of network architecture which explicitly includes cultural concerns and the ethic of an open network. This text will be used as a basis for the discussion of the cultural effects of Requests, Recommendations and Standards and the development of the semantic web.