

# The Self-Organization of Cyberprotest

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## Abstract

The specific task of this paper is to describe cyberprotest as a self-organizing system. Cyberprotest is a global structural coupling and mutual production of self-organization processes of the Internet and self-organization processes of the protest system of society. In cyberprotest the self-organization of the Internet system and the self-organization of the protest system produce each other mutually in a self-organization process, hence cyberprotest is a self-organization of self-organization processes, a form of second-order self-organization

*Keywords: Cyberprotest, self-organization, complexity, online activism, social movements*

## 1 Introduction

Cyberspace is a global technologically mediated space of cognition, communication, and co-operation, a sphere of production, reproduction, and circulation of human knowledge. It is inherently networked, decentralized, and dynamic. Besides being a big marketplace, it is also a medium of political interaction. This paper attempts to describe the phenomenon of cyberprotest at a theoretical level. Cyberprotest is an emerging field of social movement research that reflects the role of alternative online media, online protests, and online protest communication in society [cf. 1, 3, 19, 31, 32, 33, 39, 40, 42, 46, 48]. The existing approaches are mainly descriptive and empirical, what is missing is a broader theoretical perspective that embeds the phenomenon of cyberprotest into social theory and provides theoretical concepts that can guide research. This paper tries to make a contribution to the establishment of theoretical foundations of cyberprotest by considering the latter within the perspective of self-organization theory. The notion of self-organization seems to be particularly promising because it relies on concepts such as networking, interaction,

communication, co-operation, complexity, dynamics, processes, and decentralization that are by various approaches also employed metaphorically for describing social movements and cyberprotest.

Self-organizing systems are networks of interacting entities that produce new emergent system qualities in a synergetic process [22]. Such systems are complex, dynamic, and evolving. Both Cyberspace and protest are networked, globalized, decentralized systems. Hence the logic of self-organizing systems seems to be suited for describing the structural coupling of cyberspace and protest (cyberprotest). Self-organization is a process where a system reproduces itself with the help of its own logic and components, i.e. the system produces itself based on an internal logic. Self-organizing systems are their own reason and cause, they produce themselves (*causa sui*). In a self-organizing system new order emerges from the old system, this new order can't be reduced to single elements, it is due to the interactions of the system's elements. Hence a system is more than the sum of its parts. The process of the appearance of order in a self-organizing system is termed emergence. The logic underlying self-organizing systems resembles the dialectical principles of the transition from quantity to quality, negation, and negation of the negation [22].

The dynamic character of social systems can be achieved by the mutual production of human actors/groups and social structures [cf. fig. 1]. This process can be termed social self-organization or re-creation of a social system [20, 21]. The synergies of communication processes result in the production and reproduction of social structures, these structures enable further practices and communications by which social structures can again be produced and reproduced, etc. This process is self-referential, recursive, and cyclic, social systems permanently change themselves, their dynamic is given by an endless emergence of social structures from practices and communications of human actors and vice versa. Social structures and human actions/communications produce each other mutually. Anthony Giddens has termed this cyclical process the duality of structure and has considered structures as medium and outcome of human practices, they enable and constrain actions. "According to the notion of the duality of structure, the structural properties of social systems are both medium and outcome of the practices they recursively organise" [27, p. 25, for a discussion of how Giddens' structuration theory fits into the framework of a theory of social self-organization cf. 21].



Figure 1: Social self-organization

The Internet is a self-organizing socio-technological system [23], it is not a global technological network of networked computer networks based on the TCP/IP protocol, but a social system. As a pure technological storage of knowledge the Internet would be useless, it gains its “life“ only by human activity and social relationships that interpret data and produce meaningful knowledge. In order to conceive the Internet as a non-mechanistic, non-linear, complex system it is necessary to consider it not as a purely technological system, but as a socio-technological system in which human actors and groups (virtual communities) are of central importance. The Internet consists of a technological subsystem, i.e. a global decentralized network of computer-networks that store objectified human knowledge, and a social subsystem, i.e. human actors and virtual communities that interpret, communicate, and produce knowledge within the Internet.

The Internet consists of both a technological infrastructure and communicating human actors. Together these two parts form a socio-technological system, the technological structure functions as a structural mass medium that produces and reproduces networked communicative actions and is itself produced and reproduced by communicative actions. The technical structure is medium and outcome of human agency, it enables and constrains human activity and thinking and is the result of productive social communication processes. In the self-organization of the Internet objective knowledge that is stored technologically emerges dynamically by processes of human production, communication, and co-operation. Subjective and intersubjective knowledge is objectified in these processes. The already existing objective knowledge that is stored e.g. in the World Wide Web, is permanently reproduced, i.e. it is interpreted and meaning is attached to it by human actors. The technological storage of knowledge, i.e. digital knowledge, enables human action-, communication-, and co-operation-processes, it constitutes social systems and virtual communities in which objective digital knowledge is subjectively appropriated and used. This adoption allows the production and reproduction of further objective knowledge in the Internet. An endless self-referential production cycle emerges in which objective and subjective knowledge, technological structures and human actions, produce each other mutually. The self-organization of the Internet is a permanent objectification of subjective knowledge and a subjectification of objective knowledge of global reach, it can be seen as a global productive dialectic of objective and subjective knowledge. The WWW is a self-referential medium in the sense that when a new link is created the system refers to itself by actualizing its content. Each web-page refers to a number of other web-pages that again refer to other web-pages, etc. Self-reference is the essential nature of a hypertext, by creating links a text is connected to another text, the hypertext system of the WWW is referring to itself. Virtual self-reference is based on human activities, i.e. on the creation of new hypertexts that are embedded into the existing system. The interlinked structure of the WWW defines possible paths that are discovered by active human beings that browse the Web and create their own personal path. “A hypertext is a matrix of potential texts, only some of which will be realized

through interaction with a user” [36, p. 52]. A hypertext system reproduces itself by the permanent self-reference of the category text.

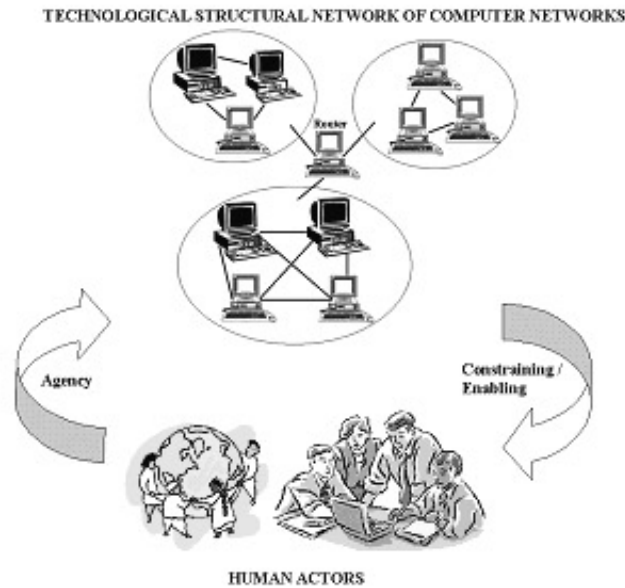


Figure 2: The self-organization of the socio-technological Internet system

Self-organization of the WWW means the permanent emergence of new websites. The structure of the Web changes dynamically, pages disappear, reappear in alternative forms, are mirrored on other servers, new pages appear, etc. The detailed structure of the Web can't be known, predicted, and controlled to a full extent, its complexity steadily increases with its growth. Virtual complexity can be measured by the number of websites and links in the WWW. When a new website is introduced, it is embedded into the existing Web and extends the latter. In order for a web page to be "visible" in the Net, links must be created that lead from and to this web page. Hence each web page is based on other websites, search engines, link lists, etc., but it can't be reduced to them (except in the case when one page is an exact mirror of another) because it has its own specific content and structure. Hence one can say that in the self-organization of the WWW, new web pages emerge out of other web pages. The Web "is continuously expanding, moving, and transforming itself. The World Wide Web is a flux" [37, p. 140]. But this emergence and self-organization of the WWW is not a purely technological process, it is in need of active, knowledgeable human actors who create the structure of the WWW, links, new websites, etc. and browse the Web. Without human beings, the Web is a dead mechanical entity that is non-self-organizing. One can only speak of the self-

organization of the WWW when one considers it not as a technological system, but as a socio-technological system where human beings make use of a technological medium in order to communicate. The Web grows and self-organizes only through human activity. The metaphor of the Internet as a carpet that is woven and permanently re woven by millions of people that are distributed all over the world describes Cyberspace's dynamic nature. It is a carpet of networked, shared meaningful information that permanently re-creates itself and permanently re-emerges.

Also protest movements are self-organizing systems [25]. They are part of the civil society system, by producing alternative topics and demands they guarantee the dynamic of the political system. Protest movements are dynamic communication systems that permanently react to political and societal events with self-organized protest practices and protest communications that result in the emergence and differentiation (production and reproduction) of protest structures (events, oppositional topics, alternative values, regularized patterns of interaction and organization). The dynamic of social movements is based on the permanent emergence and mutual production of protest practices and protest structures. The self-organization of a social movement is a vivid process, it is based on the permanent movement and differentiation of actors and structures that communicate public protest, a social movement is only a movement as long as it communicates protest and moves itself.

In critical phases of protest new social systems of protest emerge whose form, content and effects are not determined, but dependent upon old structures, i.e. old structures enable and constrain new structures. The emergence of new protest issues, methods, identities, structures, and organizational forms starts as singular innovation, if it is widely imitated then it spreads within the protest system and transforms the system as a whole, novel qualities sublate the old structure of the total system. In critical phases protest can intensify itself. This reflects the idea of complexity thinking that small causes can spontaneously have large effects.

## **2 The Self-Organization of Cyberprotest**

The character of the Internet as a system for the co-operative production of knowledge, the global sharing of knowledge, real-time- and many-to-many-communication allows the emergence and permanent reproduction of social systems of global protest that have collective values, practices, goals, and identities. By Internet communication protestors produce shared meanings that constitute collective identities and practices. The logic of the Internet and of new global protest movements is characterized by decentralization, networking, dynamics, and globality. Both systems are based on global self-organization processes. Hence the Internet is suited as a medium of co-ordination, communication, and co-operation in global protest. Cyberprotest means the structural coupling of the Internet system and the protest system of society, the two systems interlock, their self-organization processes produce each other mutually and affect each other. A self-organizing protest system (that works

according to the logic in figure 1) enters the socio-technological Internet system on the actor level as a collective actor (the lower part of figure 2), the protest system is transformed into a virtual community that makes use of the global technological network of computer-networks of the Internet in order to permanently produce and reproduce globally distributed protest structures and practices. Structural knowledge emerges on the technological level of the Internet by processes of communication and co-operation of protestors, this structural knowledge enables the dynamic emergence of protest structures and practices on the actor level, i.e. the system of protest. There is a tendency of protest movements' being less organized purely on local and national levels, and more in global virtual communities. We are witnessing the emergence of transnational protest movements, this process is not virtually caused, but virtually mediated.

The structural coupling of cyberspace and progressive global processes as global and decentralized cyberprotest-from-below anticipates a new political mass movement that could take on the form of a transnational, co-operative, decentralized Fifth International, a "cyber-spatial international" [19] and the form of a virtual community "in which computer communications would provide the connecting threads for new forms of distributed collectivity capable of coordinating socio-economic cooperation from the bottom up" [14, p. 232]. Cyberprotest is a global structural coupling and mutual production of self-organization processes of the Internet and self-organization processes of the protest system of society. In cyberprotest the self-organization of the Internet system and the self-organization of the protest system produce each other mutually in a self-organization process, hence cyberprotest is self-organization of self-organization processes, a form of second-order self-organization. Manfred Eigen has characterized such processes where self-organization processes produce each other mutually in cyclical causality as hypercycles [16]. Cyberprotest is a global hypercycle of the socio-technological Internet system and the protest system.

It is important to note that neither technological networks produce protest networks nor the other way round, both assumptions are one-dimensional and (techno- or socio-)deterministic. The network form of protest is not a result of the Internet, rather protest movements welcome network technologies because they help them in advancing networked forms of protest that seem to be objectively socially necessary in a global network society. The other way round the Internet and networked technologies are also not the result of global networked protests, but the latter transform networked technologies and the adoption of Internet by such movements has caused the emergence of new technological qualities such as electronic mass media, war blogs, various types of online protest and online campaigning, etc. Both global protest networks and electronic networks are an expression of an overall societal shift from the logic of fixed places to the logic of fluids, flows, and networks. This logic is an expression of overall changes of production and consumption patterns of economic resources, power, knowledge, and technologies that are accompanied by new Postfordist strategies of accumulation of economic, political, and cultural

capital. Global protest networks make use of networked technologies in order to advance their networked form of organization, and they produce novel aspects of network technologies such as the various forms of cyberprotest and cyberactivism. Hence neither network technologies produce network protests nor the other way round, but both processes take place at the same time, network technologies are adopted, advanced, and changed by the use in global protests and these technologies enable and constrain the protest practices of global protest movements. Social systems and technologies are dialectically related, they produce each other mutually.

Harry Cleaver describes the dynamic nature of cyberprotest with the help of the metaphor of an ocean: “As a metaphor for thinking about the ceaseless movement that forms the political life and historical trajectory of those resisting and sometimes escaping the institutions of capitalism, I have come to prefer that of water, of the hydrosphere, especially of oceans with their ever restless currents and eddies, now moving faster, now slower, now warmer, now colder, now deeper, now on the surface. At some points water does freeze, crystallizing into rigidity, but mostly it melts again, undoing one molecular form to return to a process of dynamic self-organizing that refuses crystallization yet whose directions and power can be observed and tracked. Thus too with ‘civil society.’ It is fluid, changing constantly and only momentarily forming those solidified moments we call “organizations.” Such moments are constantly eroded by the shifting currents surrounding them so that they are repeatedly melted back into the flow itself“ [7].

The Internet mediates the circulation of struggles of global protest movements, i.e. the production of meanings and practices of protest is virtually distributed and can spread and intensify with the help of Cyberspace. The circulation of struggles can be defined as “the fabrication and utilization of material connections and communications that destroy isolation and permit people to struggle in complementary ways – both against the constraints which limit them and for the alternatives the construct, separately and together” [4]. Cyberprotest is a virtual circulation of struggles of global protest movements. “New information technologies therefore appear not just as instruments for the circulation of commodities, but simultaneously as channels for the circulation of struggles. [...] Cyberspace is important as a political arena, not, as some postmodern theorists suggest, because it is a sphere where virtual conflicts replace struggles ‘on the ground’, but because it is a medium within which terrestrial struggles can be made visible to and linked with one another“ [15, pp. 121ff]. “Activists are using the very machines with which capital tries to ensure the integration of its power as means to connect their diverse rebellions. The circuit of high-technology capital is thus also a circuit of struggle“ [14]. This concept reflects the insight of self-organization theory that in complex systems local events can spontaneously spread. Through Cyberspace protest and knowledge about protests can quickly be spread over large distances, protest can intensify itself (snowball effect, butterfly effect). Protest movements are frequently spontaneous, unpredictable, and uncontrollable. “Movement actions trigger chains of events which cannot always be foreseen or controlled and they

sometimes provoke backlashes and other unintended responses“ [9, p. 9]. Due to the possibility of the fast and efficient transmission and amplification of protest and protest knowledge through Cyberspace, Internet is a medium of global political solidarity. Examples are the EZLN solidarity movement and the McLibel Internet campaign.

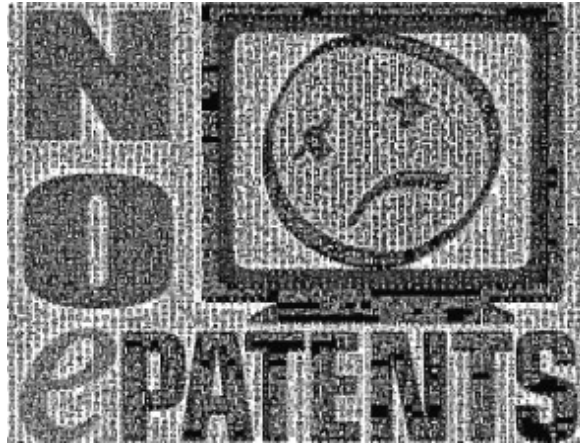


Figure 3: Online protest against e-patents

For protest movements the Internet is a medium of communication that is used for preparing and co-ordinating protests, a discussion medium for exchanging views, strategies, and goals, an information- and dissemination-medium for the dispersion of alternative knowledge [e.g. Indymedia, cf. 34], a medium of mobilization for so-called “consciousness-raising groups“, and a medium of co-operation for virtual protests. Cyberprotest makes use of the three dimensions of knowledge and virtual knowledge: cognition, communication, and co-operation; hence there are cognitive, communicative, and co-operative forms of cyberprotest. The openness of the Internet simplifies the access to protest movements (but of course only for those people who are connected) and the sharing of their values and identities, a characteristic of cyberprotest is an “instant ethos“ [29, p. 31]. An example that points up instant ethos is the online protest against software patents initiated by ATTAC Germany (for a discussion of cyberprotest and ATTAC see Grigou and Patou [28]). In July 2005 activists were asked to send small pictures of themselves that were combined online to a mosaic that formed the writing “NO ePATENTS” . This was a protest against the introduction of software patents by a directive of the European Union. The mosaic was printed on a banner that was hoisted in front of the European Parliament on July 6<sup>th</sup>, 2005, the day when the voting on the directive took place. Activists were able to input individual slogans that were displayed when one scrolled over their picture in the digital mosaic. It was argued that software patents endanger cheap and free software, make software more expensive, decrease security and stability, block innovation, and cut jobs. In this campaign



many remote activists who didn't know each other joined by sending pictures and inputting protest slogans, it was a decentralized, spatio-temporal disembedded type of protest where one could join with a few mouse clicks. There are three aspects of knowledge as a process: cognition, communication, and co-operation [24]. Cyberprotest organizes itself on all three levels as cognitive, communicative, and co-operative cyberprotest.

### **2.1 Cognitive Cyberprotest: Alternative Online-Media**

Protest movements need public visibility, they are unimportant if they are not noticed in the public. The Internet is a global space that is used by protest movements in order to be perceived by the global political public and to produce a counter-public, an alternative public sphere. Cyberspace is mainly a sphere of commerce, sex, and entertainment, it is economically dominated and a stratified sphere that reflects social inequalities and class relationships, hence it is an exclusive space to which the access is limited and impaired by stratifying categories such as income, education, gender, age, origin, race, language (digital divide). It is at the same time a class-structured space and a space for the organization of an alternative political public sphere, it both puts forward new risks and opportunities. Lee Salter [45] argues in this context from a Habermasian perspective that the steering media money and power constrain the public sphere of communication, discourse, and dialogue and that cyberprotest can strengthen the public sphere, communicative action, and the life-world. "In strengthening the lifeworld, the Internet can be seen as a foundational medium for civil society and the informal public sphere. In particular, the Internet, with its global reach, could be said to be of value to social movements. The Internet enables social-movement groups and organizations to communicate, to generate information, and to distribute this information cheaply and effectively, allowing response and feedback" [45, p. 128]. Cyberprotest can contribute to the constitution of an alternative public sphere, but it is also a segmented space. W. Lance Bennett [1] argues that global activist networks are polycentric orders, they have many centres or hubs which are less likely than in old movements to be defined around prominent leaders. Cyberprotest poses both an opportunity for advancing the grass roots character of protest as well as the risk of setting up new centres of protest communication.

Alternative online media as protest information systems form one dimension of Cyberprotest. These are online platforms like Indymedia or Altnet that have an open character, are produced in co-operative grassroots processes, provide alternative and oppositional political information, and function according to the principle "Don't hate the media, become the media". Alternative media use channels of distribution that are independent of the structures of large corporations, they are frequently characterized by self-managed grassroots structures, they are mostly non-commercial, articulate viewpoints that are dissonant from those of the dominant mass media, give visibility to unheard and marginalized voices and topics, and involve a great deal of audience participation and the subversion of the distinction between producer and consumer, author and writer (the emergence of the prosumer). The challenge and opportunity for

alternative media is to negate and provide alternatives to the one-dimensional logic of thinking, writing, presentation, and speech that dominates the established mass media, i.e. to put forward forms of reporting that reflect the complexity of the world and initiate critical, complex thinking. “The opportunity – and the challenge – for open publishing is to find new ways of writing which bring audiences closer to solutions to the problems under discussion. Stories that address complexity rather than reducing it to a good guys/bad guys schema. Stories that stimulate discussion and debate rather than constructing conflicts“ [40, p. 100]. Alternative media are “independently owned and managed; second, they articulate viewpoints which are in some sense dissonant from those of the wider media; and third, they foster horizontal linkages between their audiences, in contrast to the top-down, vertical flows of established print and broadcast media“ [40, p. 60].

The most well-known alternative online medium is Indymedia. “Indymedia is a collective of independent media organizations and hundreds of journalists offering grassroots, non-corporate coverage. Indymedia is a democratic media outlet for the creation of radical, accurate, and passionate tellings of truth. There are currently over one hundred and fifty Independent Media Centers around the world. Each IMC is an autonomous group that has its own mission statement, manages its own finances and makes its own decisions through its own processes. [...] Several hundred media activists, many of whom have been working for years to develop an active independent media through their own organizations, came together in late November, 1999 in Seattle to create an Independent Media Center to cover protests against the World Trade Organization. The Seattle IMC provided coverage of the WTO through both a printed publication called "The Blind Spot" and the first IMC web site. The web site received almost 1.5 million hits during the WTO protests. In February of 2000 a small IMC formed in Boston to cover the Biodevastation Convergence, and a larger one came together in Washington D.C. to cover the A16 protests against the World Bank and International Monetary Fund. After that, requests from local groups interested in forming their own IMCs started to pour in. There are now over one hundred local Independent Media Centers around the world and more are on the way.” [<http://www.indymedia.org>].

The main problem of alternative and left-wing media is that frequently they don't own enough money in order to reach a large public. In contrast to traditional mass media the Internet is a cheap, fast, and global medium of publication. But it is a segmented space that reflects the antagonisms of global informational capitalism. It is not decisive that there are alternative media in cyberspace, decisive is the question if they reach a large public. Hence their central problem is to attain attention and to reach a wide public. The WWW is characterized by the phenomena of information overflow and being lost in Cyberspace, hence alternative media must try to develop strategies that produce visibility in Cyberspace. Just like in real society it is also true for virtual spaces that visibility can be bought. Herbert Marcuse's [38] suggestion that alternative media should become more capital-intensive should also be considered. One hypothesis in this context is that the Internet helps making existing protest

movements more flexible, global, and open, but that there are limitations concerning the mobilization of new activists and the production of counter-public spheres that stem from the fact that the Internet is imprinted by capitalist structures and the mainly non-commercial character of alternative cyber-media. Alternative cyber-media like Indymedia haven an open character, they are global do-it-yourself media from below, everyone can engage himself as critical journalist insofar as he actively uses the medium. Cyberspace is a global counter-public sphere that is limited in its reach to humans with alternative consciousness; virtual consciousness raising processes are limited by the constraining effects of stratified virtual space and the domination of society by one-dimensional consciousness.

## **2.2 Communicative Cyberprotest: Online Protest Communication**

Cyberprotest also takes place as communicative co-ordination of social protest (as in the case of anti-globalization protests that are mainly co-ordinated and prepared with the help of mailinglists, e-mail, online discussion boards, newsgroups, etc.) . Communicative cyberprotest means that social movements make use of networked telecommunication infrastructures in order to communicate and co-ordinate protest.

Many people use the Internet and computers in order to copy, transmit, and freely distribute digital knowledge (software, music, videos, films, etc.). They are all hacktivists and part of the multitude's [cf. 30] struggle for the open and common character of knowledge and services, although many don't know that they are part of this movement. This struggle has various fronts such as the struggles against the privatization of public goods, the struggles against the capitalist appropriation of traditional knowledge and genetic information, the struggles for free access to the Internet and new technologies and for the open source character of digital knowledge, the struggles for global democracy and a critical public, etc. The Internet is used in these struggles as a medium that helps producing and distributing alternative and critical knowledge, freely sharing knowledge and technology, producing technology co-operatively, and changing and destroying hegemonic knowledge by cyberattacks.

The EZLN and its supporters have been early adopters of Cyberspace and innovators of cyberprotest. They have been characterized as the first informational guerilla by Manuel Castells [3, cf. also 5, 6] and as a germ form of the "anti-globalization" movement. "The rapidity and thoroughness with which almost every aspect of modern computer communications have been used by pro-Zapatista forces has been central to this particular movement becoming 'a prototype.' From the use of mailing lists and conferences for the dissemination of information, the sharing of experience and the facilitation of discussion and organizing through the elaboration of multimedia web sites for the amplification and archiving of the developing history of the struggle to the use of electronic voting technology to make possible global participation in plebiscites on their political positions, the Zapatistas and their supporters have been on the cutting edge of the political use of computer communications. These analyses of this

movement have also recognized how the content of these rhizomatic or networking forms of social mobilization has differed from traditional Leninist notions of revolution. Instead of a dedication to the seizure of power, the Zapatista rebellion, including its international dimensions, has involved a mobilization with the essentially political objectives of 1) pulling together grassroots movements against the current political and economic order in Mexico and the world and of 2) facilitating the elaboration and circulation of alternative approaches to social organization“ [7].

Analyses of Internet usage by new protest movements have shown that elements of interaction and real-time communication (mailing lists, forums, chats, wikis, etc.) have thus far not been used very much, that protest web sites are often intensively linked to each other, and that the focus of anti-globalization websites is mainly on information concerning the effects of neoliberal globalization, protest calendars, and protest tutorials [47, 43]. Potential functions and characteristics of different forms of cyberprotest are consciousness raising, the mobilization of activists for protests, the organization of offline protest, the support of offline protests by online-activities (such as e-mail-campaigns as virtual part of political campaigns), forms of online-protest, electronic civil disobedience/virtual forms of protest/hacktivism [49].

The Association for Progressive Communication (APC) is an international network of civil-society organizations that supports individuals and groups that struggle for freedom, human rights, development, and environmental protection in the strategic usage of information- and communication-technologies. The vision of the APC is a “world in which all people have easy, equal and affordable access to the creative potential of ICTs to improve their lives and create more democratic and egalitarian societies“ (About APC, <http://www.apc.org/english/about/index.shtml>). The APC has formulated a charter of Internet rights that should guarantee the human rights of free communication, free speech, free association, free organization, and protest. “The Internet has become a powerful and widespread communication platform. Access to the Internet has increased, in spite of the continued exclusion of marginalised communities and many people in the developing world. At the same time it has become subject to increasing commercialisation, corporate ownership and control. New information and communication technologies (ICTs), including the Internet, are part of the globalisation process - a process that takes place on unequal terms, and that often increases social and economic inequality between and within countries. At the same time the Internet and related tools can be used for resistance, social mobilisation and development when they are in the hands of people and organisations working for freedom and justice“ [APC Internet Rights Charter: Internet for social justice and development, <http://www.apc.org/english/rights/charter.shtml>]. It demands e.g. an access right to information- and communication technologies for all: “We believe the right to communicate is a fundamental human right. Rights related to access and use of the Internet and telecommunications are extremely important if ordinary people are to have their voices heard. ICTs - and help to use them - effectively must be made available to all“ [ibid.]. Further demands concerning

the Internet are usability, access for marginalized groups, gender equality, affordability, the transparency of public information, free speech, the free exchange of information, no censorships of debates, political online-debates, the right for the free organization of protests, the right for participation in online protests, the diversity of contents, the support of the usage of free software and open source software, data protection, the right for encrypted communication, and freedom from surveillance. APC has developed the software ActionApps that should help NGOs in the simple, distributed, and co-operative administration of websites and the sharing of knowledge. The APC has played a major role in the EZLN solidarity movement because it has spread the messages of the Zapatistas.

### **2.3 Co-operative Cyberprotest: Online Protest and Electronic Civil Disobedience**

Cyberprotest also takes place in virtual space itself as virtual protest. In co-operative cyberprotest protest takes place online, human actors co-operate in cyberspace in order to attack the information infrastructure of their opponents. Because of the Internet's being an important infrastructure and organizational medium of domination, electronic activists try to paralyze websites of their adversaries. Websites like petitionsite.com are portals that offer ordered links to online petitions. Virtual petitions, ping attacks/denial of service attacks (with the help of software applications like FloodNet) aiming at the blockage of servers, the hacking, defacing, and hijacking of websites, the spamming of e-mail-addresses (e-mail bombs), and IRC jamming are virtual protest repertoires. One important characteristic of online protests is that these are forms of collective protest that unlike demonstrations, strikes, sit-ins, the occupation of buildings, etc. don't require spatio-temporal co-presence of actors. The actors are "smart mobs", "people who are able to act in concert even if they don't know each other" [42, p. xii]. Cyberspace enables communication and co-operation that transcends spatio-temporal limits, it disembeds communication, and makes action at a distance and time-space-distanciation of social relationships possible. Hence cyberprotest events or campaigns are spatially distributed events or series of events, some of them are to a certain extent temporally disembedded (such as online petitions where there are certain time limits until when one must sign such a petition, but it need not be signed simultaneously at one certain point of time or during a strictly limited time span by protestors), some must take place at the same time but are spatially distributed (such as the flooding of websites or servers with ping requests in order to block communication channels of political adversaries). Cyberprotest is to a certain extent a spatio-temporal distanced and disembedded form of social protest, it is globally distributed and networked.

On the website of Friends of the Earth UK it is possible to sign online petitions that are automatically sent to the relevant stakeholders per e-mail. The Green Peace Cybercentre is the online-community of Greenpeace, on this website cyberactivists can sign online petitions, send e-cards, and discuss Greenpeace-related topics in online discussion boards. In the petition section it is possible to generate petition letters that are sent per e-mail.

The Electronic Disturbance Theatre (EDT) wants to support the struggles of the Mexican Zapatistas by “electronic civil disobedience“. Other examples for virtual protest groups are the Electrohippies, Netstrike, the Critical Arts Ensemble, and Cult of the Dead Cow. Sandor Vegh [49, pp. 82f] distinguishes cyberattacks/hacktivism, cybercampaigns, and cyberwar. Hacktivism would be a single politically motivated virtual action of non-state actors in order to gather public attention for a political topic and to express disapproval. Cyber campaigns would be co-ordinated cyberattacks as part of social conflicts, and cyberwar hacktivism at the level of nation states, an aspect of armed conflicts. Tim Jordan and Paul A. Taylor [32] define a hacker as a person who illicitly breaks into other people’s computer systems. Hacktivism would be politically motivated hacking. They distinguish between mass action hacktivism (MAH) and digital correct hacktivism (DCH). MAH would transfer traditional forms of protest (boycotts, demonstrations, sit-ins, strikes, civil disobedience) into virtual space. DCH would see information freedom as a human right, groups like Cult of the Dead Cow that one can consider as forms of DCH, oppose the disturbance of communication channels (denial of service attacks, etc.) by groups like the Electronic Disturbance Theater. They oppose illegal actions and electronic militancy. “Free flows of information are at the core of digitally correct hacktivism. Whereas mass action hacktivists look to networks to do things for them, to be a place in which protest can occur just as roads are places in which demonstrations can occur, digitally correct hacktivists attempt to form the nature of roads and passages of cyberspace. In doing this they generate actions directly focused on the codes that make cyberspace the place it is. [...] Digitally correct hacktivists create purist technologies for an informational politics. Mass action hacktivists create impure technologies for a mass politics“ [32, pp. 114f]. MAH makes use of technology in order to reach non-technological goals, DCH considers electronic space as a political space that should be freely accessible.

An example of another group that can be characterized as DCH is the Electronic Frontier Foundation: “The Electronic Frontier Foundation (EFF) was created to defend our rights to think, speak, and share our ideas, thoughts, and needs using new technologies, such as the Internet and the World Wide Web. EFF is the first to identify threats to our basic rights online and to advocate on behalf of free expression in the digital age“ [18]. The fight for the free access to Internet, digital knowledge, and technology (that also involves the struggles of the Open Source movement, the File-Sharing-Movement, etc.) is part of a universal movement that struggles for the reappropriation of the common character of knowledge, technology, public goods, and nature. The common character of goods and services is increasingly destroyed by software patents, genetic patents, agreements such as GATS (General Agreement on Trade and Services) and TRIPS (Trade-Related Aspects of Intellectual Property Rights), etc. As a result a movement emerges that is reclaiming the commons (Klein 2004).

The term “tactical media” describes flexible usages of mass media in protests. It doesn’t necessarily limit itself to cyberprotest, cyberprotest forms such as cyberattacks are one form of tactical media, the tactical media-strategy

makes use of whatever media are necessary and accessible in order to stage protest events and campaigns. “Tactical media are based on a principal of flexible response, of working with different coalitions, being able to move between the different entities in the vast media landscape without betraying their original motivations“ [26]. <sup>®</sup>TMark is an organization that funds acts of sabotage that criticize corporate power. It aims at the “intelligent sabotage of mass-produced items“ [44], it satirically criticizes corporate and bureaucratic power. <sup>®</sup>TMark e.g. set up a website that pretended to be a vote auction in order to criticize democratic deficits, it ridiculed the WTO’s free trade policies on a faked WTO website, funded the Barbie Liberation Organization that switched the voices boxes in 300 Barbie and GI Joe dolls in order to stress the problem of gender stereotyping in children’s toys, and it sponsored altering song titles and lyrics in ways that would highlight the music’s crass nature.

The strategy of culture jamming means to ironically reverse and sabotage symbols of corporate and political domination. It’s a form of semiotic sabotage, symbolic juxtaposition, and information altering that is politically motivated. “Culture jamming, [...] is directed against an ever more intrusive, instrumental technoculture whose operant mode is the manufacture of consent through the manipulation of symbols. [...] Part artistic terrorists, part vernacular critics, culture jammers, like Eco’s “communications guerrillas,” introduce noise into the signal as it passes from transmitter to receiver, encouraging idiosyncratic, unintended interpretations. Intruding on the intruders, they invest ads, newscasts, and other media artifacts with subversive meanings; simultaneously, they decrypt them, rendering their seductions impotent. Jammers offer irrefutable evidence that the right has no copyright on war waged with incantations and simulations“ [12]. Culture jamming can be related to all sort of mass media, cyberspace (e.g. in the form of politically motivated faked and defaced websites) is just one of them. Adbusters is a culture jamming organization that operates a website, a magazine, and an advertising agency in order to “advance the new social activist movement of the information age. Our aim is to topple existing power structures and forge a major shift in the way we will live in the 21st century. We will change the way information flows, the way institutions wield power, the way the food, fashion, car and culture industries set their agendas. Above all, we will change the way we interact with the mass media and we will reclaim the way in which meaning is produced in our society” [<http://www.adbusters.org>]. An example of virtual culture jamming are “google bombs“, these are attempts to influence the ranking of a given site in results returned by the Google search engine. Due to the way that Google’s Page Rank algorithm works, a website will be ranked higher if the sites that link to that page all use consistent anchor text. The first Google bomb mentioned in the popular press may have occurred accidentally in 1999 when users discovered that the query “more evil than satan” returned Microsoft’s home page. A search for “miserable failure” brings up the official George W. Bush biography as number one result on Google, Yahoo and MSN and as number 2 on Ask Jeeves. Also the keyword “failure” produces Bush’s biography as number one search result on Google.

Some years ago Nike in a campaign of micro-marketing offered to customers to submit a word or phrase that they would stitch onto a pair of shoes. As an action of culture jamming Jonah Peretti submitted the word “sweatshop“ in order to criticize the labour conditions at Nike’s production sites in the Third World. Nike refused to print such a slogan onto a pair of its sneakers, Peretti published the resulting e-mail exchange in the WWW and the story reached the mass media and damaged the image of Nike because it was now frequently associated with sweatshops. ”Nike rejected my request, marking the beginning of a correspondence between me and the company [see box]. None of Nike’s messages addressed the company’s legendary labor abuses, and their avoidance of the issue created an impression even worse than an admission of guilt. [...] The e-mail began to spread widely thanks to a collection of strangers, scattered around the world, who took up my battle with Nike. Nike’s adversary was an amorphous group of disgruntled consumers connected by a decentralized network of e-mail addresses. Although the press has presented my battle with Nike as a David versus Goliath parable, the real story is the battle between a company like Nike, with access to the mass media, and a network of citizens on the Internet who have only micromedia at their disposal. [...]I never expected my conversation with Nike to be so widely distributed; the e-mail began to proliferate without my participation“ [41]. This protest managed to produce an alternative, critical coding of a brand name by making use of e-mail, Internet, and the mass media. Cyberspace can play an important role in culture jamming and the production of critical subversions of symbols of domination. This example not only shows the connection of Cyberspace and culture jamming, but also that cyberprotest can make use of the characteristic of a self-organizing system that (virtual) communication can quickly intensify itself (in the Internet) and can create global contagion effects of protest. The example demonstrates that in complex, self-organizing systems small causes can have large effects and that cyberprotest forms such a system.

The emergence of a transnational, networked form of domination that makes use of new communication technologies and has been termed Empire by Hardt and Negri [30] has resulted in new forms of networked protest that challenge the Empire. “It takes a network to fight a network“ [30, pp. 149]. Protestors make use of network technology, they use the logic the global system puts forward in order to battle against this system. This counter-logic wants to appropriate, transform, and reverse the dominant logic in order to sublimate and question this very logic. For doing so activists have developed concepts like Digital Zapatismo [13], Hacktivismo [10], Hacktivism [17], Electronic Civil Disobedience [8], Netstrike, or the Temporary Autonomous Zone [2].

### **3 Cyberprotest and Rhizomes**

Harry Cleaver has taken up the concept of rhizomes by Gilles Deleuze und Félix Guattari [11] in order to characterize cyberprotest as a transnational rhizome. “For my purposes here, the most salient of their ideas are the ones based on the metaphor of the rhizome: a subterranean plant growth process involving



propagation through the horizontal development of the plant stem. Deleuze and Guattari juxtaposed this horizontal elaboration of a multiplicity of underground roots and above ground stems to more familiar arboreal processes associated with the vertical, centralized growth of trees. Through the metaphor of the rhizome they explored the characteristics one finds, or might expect to find, in horizontally linked human interactions --whether of small-scale social groups or large-scale social movements. This work has been taken up by activists in such movements and used for thinking about their own activity, both locally and internationally“ [7]. In which respect is cyber protest rhizomatic? In order to give such an analysis we have to take into account the six qualities of a rhizome [11].

**1. The principle of connection:** Any point of a rhizome can be connected to anything other, and must be. Elements that are connected are “diverse modes of coding (biological, political, economic, etc.)“, “organizations of power, and circumstances relative to the arts, sciences, and social struggles“ [11].

**2. The principle of heterogeneity:** The elements of a rhizome can be connected according to different types of codes. A rhizome is not hierarchically and centrally organized like a tree structure, but has an anti-hierarchical and decentralized form.

**3. The principle of multiplicity:** There are no points or positions in a rhizome, only lines. Multiplicities are defined by the outside according to which they change in nature and connect with other multiplicities. “Multiplicities are defined by the outside: by the abstract line, the line of flight or deterritorialization according to which they change in nature and connect with other multiplicities“ [11]. Lines of flight are important aspects of rhizomes, they break open segmentary lines. Rhizomes tend to deterritorialize lines of segmentarity, i.e. a rhizome constitutes lines of flight down which it constantly flees.

**4. The principle of asignifying rupture:** A rhizome may be broken shattered at a given spot, but will start up again on one of its old lines or on new lines.

**5.+6. The principles of cartography and decalcomania:** A rhizome is a map and not a tracing. A map is not an image from which reality can be traced, it is a changing flux that is permanently reconstructed. A map is oriented towards experimentation, in contact with the real it fosters connections, removes blockages, advances maximum opening, is open, connectable, detachable, reversible, susceptible to constant modification, and it has multiple entryways. A rhizome negates the reduction to simple parts. One can try to copy a map, but there will be no identical reproduction. The information flow in a map is non hierarchical.

What do these principles mean for protest movements?

**1. The principle of connection:** A protest movement can only form a rhizome if its structures of decision and communication are inclusive and each actor is connected to the other actors. In order to take inclusive communicative decisions, the Internet is a suited medium.

**2. The principle of heterogeneity:** The elements of a rhizome can be connected in different ways, i.e. communication can take on different forms. The

two most important ways are face-to-face meetings and computer-mediated communication (CMC). CMC is the main form of co-ordination of global protest. That a rhizome is anti-hierarchical and decentralized means for protest movements that a direct democratic grass roots organizational form is important. Heterogenous coding implies that the goals, values, and interpretation schemes of the groups and individuals in a movement are diverse and should be co-ordinated in the form of a unity in plurality. Access problems can be the result of the segmentation of the Internet (digital divide), hence there is the danger of newly emerging hierarchies in the form of communication centres that develop within a global movement. This problem can be solved by a shared pool of money and resources. The principle of mutual aid is important for democratic protest movements.

**3. The principle of multiplicity:** The line of flight is a cohesive force of protest movements, it organizes itself against a common enemy and with the help of common practices. That a rhizome is a multiplicity does not only mean the existence of lines of flight, but also that plurality is important.

**4. The principle of asignifying rupture:** Global protest movements mostly have an open character, they are dynamic, new actors enter, old ones disappear, practices are newly defined, etc. That a rhizome sprawls is an expression of its dynamic character. Internet and protest movements are dynamic systems, hence their combination in the form of global cyberprotest is obvious.

**5.+6. The principles of cartography and decalcomania:** Protest movements are rhizomatic only if they are not hierarchically organized, but rather have a decentralized structure. There must be no central authority, decisions should be taken in a networked grass roots form. Communication should be global, flat, and dynamic. Negri and Hardt [30] have argued that fundamentalistic protest movements like Al Qaida are globally networked systems, but that their inner structure is based on central leadership and their external goal is a hierarchical and repressive society. Hence a protest movement is only rhizomatic if it is a grass roots organization and has progressive goals like the emergence of a global democracy. Transnational protest movements are not automatically rhizomatic, only in the case where they are open, dynamic, direct democratic, pluralistic, and hold humanistic political goals. Al Qaida is not rhizomatic, whereas the movement for global democracy forms a transnational rhizome. A rhizome is at the same time multiplicity, heterogeneity, and connection, this means that the ideal organizational structure of a global protest movement is the form of unity in plurality.

## 4 Conclusion

Self-organization is a dynamic threefold knowledge process of cognition, communication, and co-operation [24]. In this paper I have argued that the notion of self-organization can be employed in order to grasp the dynamics and the networked character of cyberprotest. The network society puts forward a new logic that transforms structures of domination, technologies, and social struggles. Cyberprotest is an expression of global networked protests that challenge the networked logic of domination and accumulation that stratifies the knowledge

society. Cyberprotest is enabled and constrained by cyberspace and transforms virtual space. Cyberspace is a medium of the consumption, circulation, and production of digital knowledge, a medium of cognition, communication, and co-operation. Cyberprotest hence describes processes of virtual protest cognition, communication, and co-operation: Cyberspace is a space of alternative online media that challenge the one-dimensional logic of the dominant mass media (cognition), it is a medium that co-ordinates the interactions of global social protests (communication), and a production system that is used by protestors in order to co-operate in such ways that globally distributed forms of online protest emerge that don't require co-presence, are spatio-temporally disembedded, and enable people to jointly protest although they have never met and don't know each other (co-operation).

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