THE POLITICAL RAMIFICATIONS OF FREE/LIBRE OPEN SOURCE SOFTWARE ON NETWORK ADVOCACY

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Master of Arts

by
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DECLARATION

I hereby confirm that this Master by Research thesis is entirely my own unaided work and that I have not submitted it in whole or in part to any other academic institution.

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Signed at the University of the Witwatersrand on 21 August 2008

ABSTRACT

Research within the last fifteen years on global advocacy networks has often focused on their accomplishments through the linking of similar groups. The majority of this research while being useful to examine transnational political dynamics has two deficiencies. The first is that there is little or no consideration of the network infrastructure (from code to cables) that allows the aforementioned linkage to occur. It is therefore important to investigate the politics of infrastructure, architecture and design and the power and control thereof. Secondly, prior to Web 2.0. technologies, advocacy networks were nodes of information distribution, rather than nodes to which information was directed, and then subsequently collected, compiled and used for political purposes. It is quite reasonable to argue that Web 2.0. technologies (again due to considerations of code, digital architecture and design) have altered the manner in advocacy networks interact with their supporters, other organizations and formal political institutions. This change is located within the advocacy network's techno-organizational structure. Subsequently, as the digital architecture for the internet is an inter-operable free/libre open source software (FLOSS) common to information exchange, it stands to reason that as an infrastructure this technology is directly a political landscape over which and in which friction and contestation can and does occur. In regard to the methods of interaction, FLOSS technologies have greatly expanded the pool of potential social activists and reduced the costs of engagement, activism and highlighting issues. With these factors in mind it can be argued that FLOSS has created opportunities for civil society to emerge and engage with society at large in ways that are both new (in a digital medium) and similar (tackling issues of social justice as constructed by the social activists). When considered at a systematic level this process has several implications. These implications include the impact of

networking on identity, social relations, power relations and so on, which in turn acknowledges that modern computer networking can act as a mechanism that radically restructures various political relations. This itself acknowledges various contests over modern computer networking (one position which is expressed by various FLOSS proponents), and the physical infrastructure and the power and control thereof which allows such networking to even exist in the first instance. Within this context, which could be described as an information ecosystem, there is a recognition that advocacy networks have emerged as new sources of power ready to exert influence through networking that occurs in a) a non formal manner and b) 'beneath the radar' as it were.

For my family,
for more than they will ever realize.

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We are the sum of our experiences, both the good and the bad. I think of this work in much the same manner. Thus, this thesis owes much a wide variety of people and obstacles. Specifically I wish to thank friends and family, who through the years were anvils on which I beat out my thoughts – thanks for putting up with me! In many ways, the same could be said of Sheila Meintjes and her staff, whose help and patience has been invaluable when I knocked on their doors. I wish to thank the NRF for their grant as it effectively allowed me to produce this work. Thanks must also go those who participated in the Political Studies Forum – Ursula Scheidegger, Thomas Blaser, Eddy Mazembo and Fritz Schoon – I always appreciated our conversations.

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LIST OF ABBREVIATIONS

DRM	Digital Rights Management
FLOSS	Free/Libre and Open Source Software
ICT	Information and Communication Technology
IP	Internet Protocol
IPR	Intellectual Property Rights
IS	Information System
ISP	Internet Service Providers
MNC	Multi-National Corporations
NGO	Non-Governmental Organization
NITA	National Telecommunications and Information Administration (US)
P2P	Peer to Peer
PC	Personal Computer
TCP	Transmission Control Protocol
WTO	World Trade Organization

PREFACE

This thesis is a product of an interdisciplinary approach that sought to combine political science with computer science. Bringing together different languages and discourses creates its own difficulties in terms of finding an accessible language and explanatory concepts. As such, I have tried to accommodate both disciplines in a manner that is as frictionless as possible. However, these languages often used very different conceptions and often without consideration to the research outputs of the other discipline. Thus, this work has tried to create a consistent vocabulary in order to convey the political ramifications of advances in information technology. That said I carry full responsibility for misinterpretation and translation of the concepts from both disciplines.

CHAPTER ONE
INTRODUCTION

1.1. INTRODUCTION

The development of Free / Libre Open Source Software (FLOSS) has in recent years attracted a significant number of individual programmers for the purposes of compiling and developing software in a collaborative manner (see DiBona et al 1999; Kim 2003; Dalle, et al; 2005; Gorling, 2003; Tuomi, 2005). These programmers each have differing interests and their programmes cover a wide range of industries and applications (Escher 2004, Tuomi 2005, Goring 2003). However, there are some common social and technical denominators of trying to reduce cost, increase software flexibility, improve reliability, increase support advantages and create affordable software (see Wheeler 2007 Statskontoret 2003; Tuma 2005; Kim 2003). While some researchers have pointed out that in more than half the cases, individual programmers develop FLOSS to gain experience prior to entering the workforce (see Dalle et al 2005, Lakhani and Wolf 2005, Lee et al 2003), a number of writers suggest FLOSS has the potential to change (perhaps dramatically) the way humans work together to solve complex problems in general, and specifically in areas of public policy and management (Bruggink, 2003a, Schweik and Semenov 2003).

Previously FLOSS has been articulated as a culture, an ethic, a paradigm, a practice, an ideology, an identity, a philosophy and as a network or 'teams' of developers (Lehmann 2004, Hannemyr 1999, O'Reilly 2004, Raymond 2000a; 2000b, Ljungberg 2000, Cooksey 2005, Tuma 2005, Crowston and Scozzi 2002; Gallivan 2001; Malone and Laubacher 1998; Markus et al. 2000). This process is not an actively or consciously organized and ideological structure as some narratives portray (see for instance Lehmann's 2004 critique). The FLOSS movement is rather a multitude of observable phenomena – the practice of programming (Dempsey et al 1999) – that presents some imagination of shared becoming and kinship (see Escher 2004; Cooksey 2005; and Hemetsbeger and Reinhardt 2004). This movement is very reliant upon network-enabled collaboration and can be said to constitute a social formation at the very least (Lehmann 2004).

At the most general level, FLOSS itself refers to software that has been licensed in a specific manner that allows the source-code to be distributed with the software

program. In addition, the use of the term FLOSS validates and acknowledges the strongly voiced ideological differences within the movement. In this thesis the FLOSS movement is articulated as a particular culture that functions in the form of a virtual-transactional-network-community, built around the transactions involved in coordinating the development, and the discussions on how the software project should evolve. Yet FLOSS is more than an ideology or set of licensing frameworks, it is the fundamental consideration of architecture in software infrastructure to increase space and opportunities for participation.

Many programmers contend FLOSS is an excellent and viable option for a large community with large numbers of highly skilled software developers (van Reijswoud and Topi 2004). This position states that in an open environment with access to the Internet, source code and application support for that community is easily available. Under these conditions, the programs can be improved, modified and adapted when necessary. This is not limited to industry and does apply to government and individuals. Currently, there is an increasing interest and demand for FLOSS within the South African government (Bruggink, 2003a; Reijswoud and Topi 2004, and GITOC, 2003).

This study will look at the political ramifications of FLOSS when utilized by two South African advocacy networks and one global network advocacy group. This is set against a background where South Africa is one of many countries in the developing world that is eager to incorporate FLOSS into the fabric of society. The other two main supporters of FLOSS are India and Brazil (IBSA Forum 2005). Yet, notwithstanding this interest from the developing world, the majority of the source code and applications are generated in the developed world (see Escher 2004). Generally, we do not find many developing countries attempting to develop any form of FLOSS. According to the literature on the subject, their enthusiasm is limited to the 'cost reduction aspect' for FLOSS users (individuals and organizations) pay reduced or no licensing fees. (Bruggink, 2003b) Cost reduction is increasingly important in Africa where scarcity is a problem.

Other than the presumed advantages of cost saving of FLOSS, other features include: increased software flexibility; availability of robust and reliable technology for utilization and the lower dependence on software vendors. However, the 'openness' and 'flexibility' of FLOSS is potentially far more important and beneficial than cost, when considering the question of sustainability of application in Africa.

The primary benefit of FLOSS in terms of developmental purposes is that its programs can be customized and continuously revised to develop and change with the needs of the particular user. This then saves secondary costs. In addition, where propriety software is very hardware intensive, FLOSS can be run on computers that are considered 'obsolete' (van Reijswoud and Mulo 2005) as its applications and programs have the ability to be streamlined and customized accordingly. The study aims to establish whether this can allow for the model of FLOSS to spread into areas that propriety software cannot, at a significantly reduced cost.

Together with its aforementioned advantages, FLOSS represents an important opportunity for transforming the position of Africa as a whole within the information society. Nevertheless how will these changes engendered by FLOSS, affect the bodies that adopt their use? These are issues that various advocacy networks are attempting to grapple with. Miller et al (2005) regard South African civil society to be very organized and engaged with contemporary debates regarding social and digital technology and the use thereof:

> In South Africa a strong civil society sector is engaged in struggles over rights and services, many of which are facilitated by a complex confluence of electronically and socially mediated communications. Ghana, by contrast, showed low levels of ICT use by community organizations. In India the civil society sector would be aided by greater integration of electronic media, improving the circulation of information and better coordination of activities (Miller et al 2005).

In this context, South African based advocacy networks argue that FLOSS has emerged as a powerful new method to generating knowledge and power. It is around these questions of power, value and access that the aforementioned advocacy networks lobby and mobilize. While there are a number of studies that seek to address various aspects of FLOSS and its political organization, often these are polemic (see FSF 2007 WS, FOSSFA 2007), lack a sufficient framework of analysis, or alternatively seek to promote awareness of FLOSS (TSF 2007 WS; CSIR 2007 WS, UNDP no date). What is lacking is an examination of why and how these groups mobilize and connect in the manner in which they do, and what the resultant political effects are. This is the aim of this thesis.

1.2. AIM AND ARGUMENT

The aim of this thesis is to elaborate on and analyze the role of network advocacy surrounding FLOSS and the political and social organizations that manifest in which to undertake advocacy. The thesis also explores the implications of online and digital activism tools. The research focused on network enabled cooperation, peer-to-peer (P2P) network and distributed computing and how these tools shape the ability of activism to occur. To do this a number of different advocacy networks that were either based online or have a significant Internet identity were qualitatively sampled.

For clarity, network advocacy can be defined as a network of interactions and relationships that can connect either formally, informally, or non-formally, in which a variety of individuals or sub-organizations share a distinctive, collective identity and interact around issues they argue are of relevance to themselves or others in the civic domain (see Diani 1999).

The thesis will examine the *organization* that allows such issues as network advocacy to be communicated, the politics involved in doing so, the subsequent politics that emerge and the technology that makes this possible. For this task, networks rather than network advocacy were deemed to be the critical elements that required examination in order to determine how advocacy is practically organized. The nature of networks and the nature of network relations also makes the role of interest groups such as governments, corporations, institutions an important factor to examine, as many of these bodies are the subject of the particular network advocacy that this thesis examines. The examination of competing interests is also relevant to the organization of network advocacy.

The objectives of this thesis are:

- To determine how advocacy networks organize and mobilize in cyberspace?

- To assess how successful these advocacy networks are in shaping the digital landscape.

- To evaluate the organizational effects of network advocacy.

In studying the dynamics of this field at present, I hope to inform advocacy researchers, donors and policy makers how best to engage with and use network advocacy to promote interests. I argue that this will act as an important aid in how best to serve and understand issues, thereby contributing to a greater understanding of the subject. . Additionally, I hope to contribute to advocacy practice by analysing the strengths, weaknesses, opportunities and threats to issues by the introduction of network advocacy.

Ultimately, this thesis hopes to contribute to an emerging set of literature on collaborative network advocacy and social transformation. In doing so this thesis attempts to connect a growing but disparate set of literatures focusing on re-engagement with place, the politics of knowledge, new information technologies and organization.

1.3. RATIONALE

The motivation for this research is to study how the introduction of ICT has affected advocacy practice. Subsequently the framework developed in this thesis aims to study how various interests organize online and create advocacy. The specific area of advocacy that this thesis focuses on is FLOSS advocacy – the attempt to create benefits by using open source code. These open source software advocacy groups collect data on information rights, the digital divide, digital content and digital access to what they term 'information rights'. While these concerns have previously been examined by various media studies, they are an under-researched area vis-à-vis its political aspects, hence the reason for this research

1.4. CONTEXT

This thesis is located in four contexts. These are the shifting realms of space and political contestation, the fight to control information, the digital divide and civil society. Each context is a different perspective of a transformation that is currently unfolding. As this process is not complete, each of these contexts attempts to capture in a snapshot the current configuration and contestations between and in human

society. This in no way aims to be a complete overview of this transformation and its impact on human society, but rather an outline in which network advocacy is located and from which one can analyze the transformation's impact upon advocacy.

1.4.1 Shifting Contestation

A question posed by Giddens in his mapping of the contours of 'high modernity' (Modernity as 'post-traditional order') is 'How shall I live?' (Giddens 1991: 14). Yet as Giddens admits, this post-traditional society, the 'I' and how 'I live', is often related to structures, institutions and their behaviour. These structures, institutions and behaviours create meaning and frames of reference that directly influence the way humans live. Modernity, as Giddens argues is very much about an emergence of 'Life Politics' (see Giddens 1991; 209-231). In a way, this concept is a bridge between bureaucracy and bio-power. Ultimately, that bridge poses the question of 'How shall *we* live?' This poses the question of the organization of space and the choice thereof, specifically in the virtual online realm, the organization of that particular space and the choices of organizations[1].

The Internet is a relatively recent phenomenon and has emerged in the era of modernity. Due to this phenomenon, large amounts of information have become available and at the same time are easier to access. This has had to do with commercial interest, better software tools and the demand to 'get online'. In this situation, this accessibility of information, of value, becomes the driver of change (and protest) in the digital landscape. This returns us to the advocacy mentioned above, and to the mobilization and organization of that advocacy with which this thesis deals.

[1] I acknowledge Chantal Mouffe's arguments that using the analytical concept of Life Politics establishes a framework in which the Political is not directly under contest (2006). This post-political order, Mouffe argues, entrenches one-dimensional political configurations and sheds contestation for alternative political models or configurations. Her arguments are well founded, but she neglects and makes no attempt to account for the agency of individuals – for instance it might be the case that there is a temporal post-political order because people choose and affirm the current political configuration, in which case there is the possibility that the political is still under contest; it is just not in radical contest at the moment. If one accepts this 'temporalness', civil society's role is more important in the political configuration because it ensures that the 'door remains open' for radical contest if and when it may occur.

It is within this tension of access to information (and the nature and content of such information), that the space, and the organization of that space, is situated. The central question that must be answered regarding the Internet is whether it is a set of new challenges, or whether it is a set of different challenges that are seen in the archive for instance; essentially is the digital landscape new or different, and if it is different are there aspects which do repeat?

The Internet is both new and different. New in the sense that the technology that it uses, Transmission Control Protocol (TCP) and Internet Protocol (IP), functions as a disembedding mechanism[2], which allows for new conceptions and interpretations of objects. It is also different in the sense that it repeats dynamics within communication such as the privileging of certain information over others. Critical then in relation to organization and mobilization, is the question of how is political support generated and maintained. This is located in the expectations of using technology – does it allow for complete paradigm shift, or only partial shifts?

Returning to the point of organization of space, Giddens sketches in Modernity and Self Identity an analytical concept that is promising with regard to understanding paradigm shifts. While his work focuses on the constitution of modernity, or in his case the 'rise of the organization' (Giddens 1991: 16), it is worth noting that every human social formation has implicit organization. How specific organization is articulated or configured is certainly of concern, however Giddens (1991) argues that it is how change occurs and the profoundness of change that creates the various meanings and values in an individual's life.

Giddens argues that the configuration and articulation of space (and time), creates organization that can reside in either space *or* time. It is the conceptions of the relations of dimension to one another that creates particular forms of meaning and organization. For instance Giddens considers 'modernity' to be allowed primarily because of the 'separation of time and space' (Giddens 1991: 16). He argues that 'pre-modern' societies constructed and connected "time and space…*through* (Giddens' emphasis) the situatedness of place' (Giddens (1991; 16). Giddens

[2] Following from Giddens a disembedding mechanism 'const[s] of symbolic tokens and expert systems (these together = abstract systems) [and…] separate interaction from the particularities of locales.' (Giddens, 1991; 20)

highlights the relationship of these dimensions and how their subsequent interaction relates to the phenomenon that allows modernity to arise.

The conception of dimension/s and how they are articulated, function as the mechanisms that anchor the configuration of politics. Alteration of the conception of dimension, or the understanding of dimension, functions as a disembedding mechanism. This shifts the configuration of politics and additionally the conception of that politics itself. In this case the disembedding mechanisms allow new organizations to emerge.

Considering the above in relation to the Internet, the imagined virtual space that is considered the Internet, allows for a drastic separation between space and time. What this means is that the Internet functions in a slightly different manner to that of the *real*. Massive networking globally across time zones and the information contained, linked, hyperlinked, and the hyper-textual nature of webpage design allows massive harvesting of information by corporations, governments and individuals. In this manner, the Internet (TCP/IP) functions as a commons. A commons belongs

> equally to or shared equally by two or more; joint… or relating to the community as a whole; public…a tract of land, usually in a centrally located spot, belonging to or used by a community as a whole. (TFD 2008)

TCP/IP is an electronic commons in that it belongs to the public (through public domain licensing) and is utilized by the public for information transmission. Yet there is one crucial element that this commons (the Internet) has as opposed to *real* commons. Real commons can become catastrophic because they are finite in one way or another. However, the Internet commons can be thought of as *acting* in an infinite manner. This effectively means that maximization of individual self-interest only adds to the community and does not cause 'the tragedy of the commons'. To elaborate Hardin's metaphor of the commons and its tragedy:

> The tragedy of the commons develops in this way. Picture a pasture open to all. It is to be expected that each herdsman will try to keep as many cattle as possible on the commons. Such an arrangement may work reasonably satisfactorily for centuries because tribal wars, poaching, and disease keep the numbers of both man and beast well below the carrying capacity of the land. Finally, however, comes the day of reckoning, that is, the day when the long-desired goal of social stability becomes a

> reality. At this point, the inherent logic of the commons remorselessly generates tragedy. (Hardin 1962[1968])

To continue using Hardin's metaphor, if at this point each herdsman attempts to maximise his return by adding an extra head of cattle, it then tips the balance of the system past its point of self-sustainability. As a result, tragedy ensues. Finally, 'the commons' only works in low populations where the environment also acts in an infinite manner, as in that there is a wide margin between personal demands and finite recourses.

This 'margin' is of particular interest to this thesis, as the digital landscape, (while having an actual-finite limit; since there is not an infinite number of electrons in the universe) practically functions in an infinite manner. In this case is the commons possible, and if yes what are the standards of that commons and where and how do they function?

This thesis is therefore concerned with the standards of non-finite networks and from where they emerge. In the context of this broad theoretical framework, this thesis will consider open-standards. For those that have access to this network commons, options within life become visibly linked to access to information. For those who do not have access to information, they face the risk of exclusion from opportunities. The underlying tragedy of the commons is not having access to it.

Not only is the Internet a manifestation of organization, it also allows for new forms of organization. Subsequently one must examine these new organization's interests.. This is of concern as to questions that Giddens poses such as 'how do we live'? Choice, configuration, organization and contestation over virtual space are the critical elements that require further investigation. This thesis is unable to address this question in a manner that will do it justice; however, this is the context in which the primary investigation was undertaken. In this way, this thesis will indirectly touch and refer to the contestation of virtual space. Largely, this contest over place can be linked to Lefort conceptions over the Political as a place of power (Lefort 1986). Briefly, in Lefort's conception power stems from this place. For Lefort, in the absolute monarchy, state power resided in the actual body of the monarch. In democratic configurations power emerges from the 'people' (1986: 21), and because the people cannot be defined – and should the people be defined the society ceases to be a democracy – power is an 'empty seat' that must remained unoccupied and 'and

that those who exercise public authority can never claim to appropriate it' (1986: 21). For Lefort the tension exists because power comes from the people, yet the power is specifically no ones because of institutional forms of electoral competition. In application to virtual space, because the landscape is in constant flux, and (as yet) the space cannot be occupied directly by human conscience, and only temporally accessed through communication action the internet presents itself as a unoccupible space. However, as the internet exists only because of infrastructure – cables and so on – the dynamics of power and control over this infrastructure must be considered prior to consideration of the democratic potentials of this virtual space.

1.4.2 Contesting Information Ecosystems

In 2004, the Computer Industry Almanac speculated that by the end 2005 the Internet would have reached one billion people (CIA 2004) due to strong growth in China, Brazil, India and Indonesia. The Nielsen//NetRatings Global Internet Index reports that for May 2007, the average internet user spends 31 hours on the Internet during the month at an average time length of 55 minutes per session (see Table 2).

Year-end 2004:	Internet Users (#K)	Percentage
1. U.S.	185,550	19.86
2. China	99,800	10.68
3. Japan	78,050	8.35
4. Germany	41,880	4.48
5. India	36,970	3.96
6. UK	33,110	3.54
7. South Korea	31,670	3.39
8. Italy	25,530	2.73
9. France	25,470	2.73
10. Brazil	22,320	2.39
11. Russia	21,230	2.27
12. Canada	20,450	2.19
13. Mexico	13,880	1.49

14. Spain	13,440	1.44
15. Australia	13,010	1.39
Top 15 Countries	662,360	70.88
Worldwide Total	934,480	100

Table 1: Top 15 Countries in Internet Usage (CIA 2004)

Session / Visits per person	35
Domains Visited per Person per Month	71
Web Pages per Person per Month	1'509
Page Views per Surfing Session	42
PC Time Spent per Month	31h35m29s
Time Spent During Surfing Session	0h54m38s
Duration of a Web Page Viewed	0h00m45s
Active Digital Media Universe	338'250'261
Current Digital Media Universe Estimate	505'870'584

Table 2: Nielsen//NetRatings Global Internet Index reports that for May 2007 (May 2007)

That the internet became so widely used can be credited to its initial structure. This structure was inherited from the American response to fears of a nuclear attack. ARPANET, founded in 1969, was designed to be a decentralized communication system for command and control. It was required to function in a modular fashion. Therefore all nodes had to operate, communicate, have remote authority, and pass and receive messages. Common networking protocols had to be created to allow these nodes to communicate in decentralized manner. This set the template for the five categories of actions that occur on the internet: electronic mail (e-mail); file transfers; discussion; remote computing; and content publishing[3].

Public utilization of the communication network developed in the last 20 years, and became mainstream in the mid 1990s. Within this recent communication revolution, the digital allows (primarily) data and information to become easier the to exchange and access. It is this accessibility of information that has becomes the

[3] Long-distance computing was an original inspiration for ARPANET. With Google introducing its online office package remote computing has the potential to establish itself in a more mobile digital environment.

driver of change (and protest) in the digital landscape. The underlying success of the internet is that it has a common (open) standard[4] that allows additional nodes to be linked into that network by anyone with the skills to do so thus reinforcing its interoperable decentralized nature. The current open standards of the internet are TCP/IP. It is critical to recognize that open software standards in the form of network protocols, essentially public domain software, allowed the internet to boom. The success of the internet is in the open standards of the protocols. This provides the 'publicness' of the internet, the 'public space' of network links, which lies in the public domain of the open standard protocols. In this case it becomes a commons.

The internet by introducing a decentralized communication technology based on open standards is an instance of where technology has been decoupled from a centralized authority. To explain: the centralised-authority-communication model is essentially a one-to-many or broadcast model. For instance, the printing press established a centralized point of information and knowledge production and codification (see Febvre and Martin 1957[1997]). While on the one hand this systematically produced authoritative standards for language, behaviour and knowledge, it additionally standardised a method of transporting or conveying information and knowledge through space and time (to circulate in both the public and private sphere) (Gellner's 1983 thesis uses this as a foundational point for his theory of nationalism). Subsequently, the inherent circulation of codified standards reinforced the centralized authority. This model holds from the printing press, to newspapers, television and radio. Even recent efforts by these broadcast media to introduce 'interactive' and feedback components by reader or viewers, as in the case of talk radio, letters to the editor, or sms to live television programs, are efforts done under the control and selection of the initiating authority of that broadcast or production.

Decentralised communications such as the telephone or mobile communications, while being decentralized, were only decentralized to the point of one on one communications. Additionally, these interactions relied upon the use of service

[4] The ARPA's original standard for communication was known as Network Control Protocol (NCP). This was eventually replaced by the more sophisticated Transmission Control Protocol, (TCP/IP) which converted messages into streams of packets at the source, then reassembles them back into messages at the destination. IP, or "Internet Protocol," handles the addressing, seeing to it that packets are routed across multiple nodes and even across multiple networks with multiple standards.

providers, and infrastructure owned either by governments or by corporations. Thus, the mediation of these actions by the service provider and infrastructure left the power dynamics favouring formal structured authority. The rise of the internet as a decentralized many-to-many communication system was exclusively due to the public domain protocols that allowed interoperability interactions within a non-uniform network. Traditional political authority such as the state and corporations, bar that of software and infrastructure, were de-linked from this specific technology, and in turn allowed the emergence of new sources of power and authority such as online civil society.

Contestation in and off the internet information ecosystem is not limited to the foundational standards of the network, but also of the various structures that manifest themselves because of those standards. For instance, currently the Internet's structure has moved away from the APRANET network format of an 'all-client all-sever' stable structure. This was due to the proliferation of Internet Service Providers (ISP) in the early 1990s and the popularity of the PC. Therefore, the rotating and re-using Internet Protocol (IP) addresses became necessary. This begun the move away from a static web structure where computers had stable IPs, to a more dynamic structure internet where people could connect and disconnect at will. The rotating IP addresses also allowed more users to gain access and share the internet. However this was at a cost. The rotating IP addresses allowed users to receive and consume information, but allowed limited ability to donate to the system. Thus, the PC was relegated to the status of a client, and input to the system was limited to e-mail. This ended the 'static web' *structure* where computers all had stable IP, and moved it to an Internet which was more dynamic in *structure* (at least in the case of clients who used ISP to gain access to the network). While this had the effect of allowing more people to access the network over an extended period, the downside was that users became 'clients' of information, as opposed to being servers. Additionally the PC was simply not designed to be a server.

Recent attempts to create a pseudo 'all-client all-server' (static structure) model in the dynamic web *structure* have focused on platforms and applications for website content, file sharing and P2P networks. In trying to re-create a static structured the focus moved from using hardware (as in everyone having a server which was not possible) to software (website content, file sharing and P2P networks). This allowed the PC with a rotating IP address to link into stable sites and post (upload) content.

The side effect of uploading is that it created dynamic *content*. Content changed and altered as users donated content. This has lead to a phenomenon of user-generated-content websites such as YouTube, Facebook, MySpace, Flickr, Urban Dictionary (youtube.com 2008; facebook.com 2008; myspace.com 2008; flickr.com 2008; urbandictionary.com 2008). In this dynamic structure with dynamic content, one of the main debates surrounds content and content creation. Advocacy networks such as women'snet.org.za and the apc.org argue that content is neither representative nor meaningful for particular marginalized identities and cultures[5]. Their focus is on active content creation to make the internet meaningful for identities and cultures.

The opposing view is that content emerges as more people get online and dynamic content sites are created. For example the Computer Industry Almanac study also speculated that access by more diverse people should see the content and attitudes towards content shift as cultural diversity becomes more common (CIA 2004). Essentially the question is whether online content is subject to the same pressures of social hierarchy, and thus is the minimal content for and by marginalized groups as an indication of how existing social hierarchies interact with the aforementioned groups? This however requires further research. That said, the standard expectation regarding content and its relevance and representation of culture and identity, is that as access is achieved and familiarity increases, so user-generated-content will increase. Additionally, once a critical mass is reached, online services will eventually cater for a particular identity or culture. An example of this is Wikiepedia (2008) and its various encyclopaedias in different languages. Although this critical mass might be dictated by economic instrumental rationality, what we have seen on the internet is that in parallel with economic platforms is a development of content creation spaces. There is no reason why this parallel process will not repeat itself once critical mass is achieved.

The question of content and the space (dynamic content website) where that content can be reposited in the cultural landscape of the internet are crucial issues for some advocacy networks. Yet the debate regarding content is instead a sub-section of the contestation of the conception of virtual space, power and interests. Earlier we argued that the internet acts as in infinite commons, and thus regulation is not required. That said Lessig argues that code *is* the regulation – or at least a delimiter

[5] See for instance women'snet.org.za's Digital Stories, (s)he-bytes, and girl'snet projects.

(Lessig 2004) – in that code creates the parameters and establishes the possibilities online. Therefore, the contest of content and space is over the code. Yet if the code is based upon open standard protocols, which is the case with the internet currently, then the contest over content and space is one over whether standards are either propriety or are open. The 'public domain' nature of the internet therefore rests upon the open standards of the protocols.

Yet access to this virtual 'public' is problematic, as often one requires facilitation. While the internet is often referred to as a virtual world or as cyberspace (Barlow 1996; Sterling 1992), this virtual is articulated as removed from the 'real world' in which we live (Barlow 1996). The virtual conjures up an image of something other than the tangible. This is not quite the case. The "virtual" is merely the expression given to the combination of encoded bits of information that are stored as electrical charges in electronic devices. These electrical charges are subject to the laws of entropy, thus even the common understanding of the information always being 'there' in the virtual is incorrect. In relation to the organization of space, the internet has created an impression that there is a virtual separation from geographic space. Again, this is not the case as the electrical charges are stored in servers and data transfer requires ICT infrastructure.

Nevertheless, after taking this into account, popular understanding of the virtual as another realm separate from our own is common. This notion is built upon the internet as a great connection of these spheres of electronic charges. Here it is conceived as a network of ICT constructed from groups of decentralized websites that lie open and unrestricted access that are interconnected using hyperlinks, or direct connection using IP addresses. Inherent in this image of the internet is the overt intertextuality of the networks links by hyperlinks[6]. Additionally, the technical structure (communication cables and wiring) of the internet is visible, perhaps giving reassurance that the 'net is always there'. In the imagination, this can create a sense that all contents are accessible, thus creating one vast public space, in which all contents are public domain. While one might want to imagine the Internet as a public

[6] Considering this intertextuality and its potential is interesting in itself, as it allows a different structure of text to be created. The text in a book is linear, and while marked by chapters, it does not have the potential to refer (and link) the reader with other texts in a network fashion.

space, it most certainly is not. To connect with some websites requires permission or a password.

Secondly, even if one was ones own ISP, some entity still controls the physical cables and communication channels which the internet transfers packets of information. The growth of intranets linked to the internet is another argument against complete and total 'publicness'. Intellectual property rights and digital management rights also limit the 'publicness' (Lessig, 1999; Vaidhyanathan, 2001; Litman 2001; Berry, 2004b).

Fundamentally, the closure of the publicness of networks is akin to the closure of culture. Culture grows up from the common and everyday interactions among humans who share a condition or a set of common symbols and experiences. The products of culture should not be mistaken as culture itself. Culture is temporal, contingent and dynamic. Networks are fundamental to those processes. They are channels and serve as mediums of interaction for the process. This returns us to contestation and enclosure. This leaves us with one conclusion: if networks are the expression of the interactions of individuals, then what these interactions continuously produce is culture. This culture becomes an ecosystem and ecology of interactions and behaviours that have been created from a common set of standards. This process in turn allows interaction to occur. In this case, it would be important to examine the cultural behaviours of the network. This task is not one that this thesis can address adequately in the space provided. .

Contestation over the information distribution ecosystem of the Internet can best be seen in the politics of intellectual property, the politics of information justice and the politics of information architecture contested between a wide a variety of interest groups. These interest groups include, but are not limited to, states, corporations, advocacy networks, institutions, civil society and even individuals. The politics of intellectual property rights includes debates surrounding organizations such as the World Trade Organization (WTO) and legal frameworks such as Digital Rights Management (DRM), and how these mechanisms are used to entrench specific interests online.

In response, a number of activists have begun to lobby for information justice (OSISA 2006, Jolliffe and Mabaso 2006, Woment'snet 2006). In effect this is the use of information in a fair and ethical manner that can create an equitable society (Makhetha and Gqola 2006; DSF 2006). Yet information justice, and even the

politics which surrounds intellectual property rights (IPR), are based upon the architecture of information collection, processing and distribution. This is because the architecture creates the limits and tolerances of systems. It is the underlying mechanisms of in ICT, networks and he Internet that establish the framework of politics in the ecosystem. To be clear this is different from politics over the ecosystem itself.

Within this architecture the FLOSS community and its information advocacy network equivalent, Creative Commons are at the forefront of activism. FLOSS developers and information activists are attempting to use code, and debates surrounding code, to contest how information is used and how to create access to that information. In this way these groups are similar to any other interest group online in that wish for the network ecosystem to be formed in their vision of structure. What is interesting about these various interest groups is that they are directly contesting the open standards[7] of the network ecosystem but not the architecture. To clarify, few debate the question of the presence of the Internet itself, but rather focus on the role of the Internet in society.

The use of ICT allows the emergence of new online public spheres in which it is the possibility of internetworking that creates both new connections and movements linking the local to the global and a new virtual public space for this engagement. Internetworking using P2P networks creates a decentralized coalition based that is flexible and can respond to new opportunities and threats quickly. Here virtual public space is the network. Within this virtual public space, the diverse interests and groupings can be considered as a form of pluralistic democracy that works outside of traditional democratic arenas such as political parties and NGOs.

It is in this public space that FLOSS advocacy networks through its efforts and existence attempts to lessen exclusion and increase inclusion. FLOSS social movements by creating software and distributing source code aims to affect greater access to global communications and the aforementioned public space. Consequently

[7] Open standards are based on specifications that are owned by a vendor-neutral organization rather than by the original developers. Anyone is free to build software according to the specifications without infringement of intellectual property rights. An open standard is seen as more than just a specification. The principles behind the standard, and the practice of offering and operating the standard, are what make the standard 'open' (refer to perens.com 2008). An important aim of adhering to open standards is to achieve and promote interoperability.

creating and allowing voice to be given to those who would not have had access without the existence of the FLOSS movement, and to lessen the digital divide. While the Internet provides opportunity structures for mobilization outside institutional power, networks such as the FLOSS movement are creating new channels of communication. This creates many avenues of expanded mobilization potential and ongoing interaction for social movements. Simply, the Internet has enabled a plurality of voices to publicly critique and debate a variety of views and standpoints online. This is not to say that there is equal access and equal participation, merely that there is space for that participation which is available for anyone (web forums, chat rooms, P2P messengers etc, Personal Pages), while other movements (physical and virtual) aim to increase access for others. This occurs within networks, which are also under contest regarding protocols and information. In this case clashes are over the flow, utilization and control of information. Therefore content, code and network architecture are being contested at the point of network intersection, language and communication mediums, copyright and intellectual property between the information ecosystem (the commons) and the information distribution system.

As network advocacy is made possible by ICT, the argument is that the introduction and spread of ICT does create and allow new structures, organizations and communities to develop in spaces (both virtual and real) where previously they did not exist, engage or have access to. Simply, that ICT is an enabling agent for civic engagement in this social communication process. Additionally the network implies that activists have the potential to become spatially independent and virtual. Moreover, this can happen without diminishing impact in geographic space. In this class of network advocacy, there are activists whose relationship, existence and organization is facilitated by ICT alone, but which also contribute to developing ICT; movements who are ‘users’ as well as ‘creators’ of ICT. The FLOSS activists are an example of a virtual advocacy network that is both a ‘user’ and beneficiary of their collective efforts and a ‘creator’, in that it creates and distributes source code for the benefit of others.

1.4.3 Outlining the Digital Divide

The digital divide is a phrase used to describe the disparity in computer and Internet access, and the diffusion of technology between various groups. Technology related to the divide includes the quality and capability of telephones, computers, the Internet, televisions, cell phones and fax machines. Further ease of access to these technologies also feeds into the divide. In literature on the divide there is an implied benefit in using these technologies (see Stanley 2001; Bridges.org 2004; Benjamin 2001), which in turn implies that individuals that do not have access are at a substantial disadvantage to those that do have access. These have become significant areas of digital divide advocacy.

In the United States, the National Telecommunications and Information Administration (NITA) series of publications pegs the digital divide across clear demographic groupings (NITA 1999). These groupings comprise income, education, gender, race, urban and rural areas, and vulnerable groups (for example single mother households). This gap is not limited to North-South relations, but also exists in developed countries.

In relation to the NITA demographics study, research conducted in the San Diego area could not correlate income, education and race (Stanley 2001). In Hispanic and African America households where income and education where significantly higher than the norm, computers where often not a household feature (Stanley 2001). Stanley's work also reflected that ownership did not necessarily translate into computer literacy (Stanley 2001). Other interesting findings from Stanley are that although the primary response for the lack of computer ownership was cost, when ethnic groups with similar household income were compared, the other groups owned computers (Stanley 2001). These contradictory findings indicate that cost alone is not the primary barrier to ownership of technological artifacts. It is worth noting that low-income respondents were more likely to express negative feelings toward computers (Stanley 2001).One critique of this research could be that situations in developing countries are different from those experienced in developed countries, therefore a lack of correlation between demographic factors and technological uptake in San Diego will not necessarily mean a lack of correlation of the same factors in various parts of South Africa. However, this position is unfounded, as one can find correlations with various (unrelated) variables. In other words, these correlations may not be related directly, but might be low due to environmental circumstances. They therefore give the impression of a direct correlation. It is therefore meaningful to look

at variable relations in developed environments, as they do not have the restriction of under-development. There are no indirect variable relations, but that these relations are symptomatic of larger developmental issues.

South Africa illustrates that even in societies where infrastructure and technologies are available the divide can still exist. Statistics available indicate that only two million (out of approximately 41 million in 2003) people access the Internet either at work or at home (Bridges.org, 2003). This can be contrasted to the European Union where 53% of households had access to the Internet (the UK at 63 per cent and the Netherlands at 80% are two examples) (Eurostat 2007). In the European Union, broadband connections accounted for 32% of connection type. The United Kingdom had 44%. The Netherlands had 66%. (Eurostat 2007). In the Networked Readiness Index, South Africa was placed 47 out of 122 countries detailed. Countries placed in the same bracket as South Africa are Barbados [40], Slovak Republic [41], Latvia [42], Cyprus [43], India [44], Jamaica [45], Croatia [46], Greece [48], Mexico [49], Bahrain [50] (WEF 2007). Influencing this ranking is the lack of consumer choice in the Internet Service Provider (ISP) market. Four major role players, namely M-Web, WorldOnline, XSInet and Telkom Internet, dominate the market. Inhibitors to Internet access include the lack of necessary infrastructure in poor and rural communities (the lack of telephone lines and electricity in some cases)

The main descriptive demographics of the divide in South Africa are similar to the NITA studies: income, education, gender, age, location and race. To these can be added language barriers and culture. They can be labeled tertiary level and descriptive as in many cases they reinforce and stem from a lack of literacy, a lack of familiarity with particular technological devices, or a lack of time to allocate to learning technological systems. Added to this is a lack of technological social presence (technological artifacts and infrastructure). These factors appear to be the underling secondary cause for the divide. This is certainly the case with mid-to-higher order technological systems such as PCs and the Internet. The same model holds and can explain the presence and popularity of cellular phones. Cellular phones require familiarity, personal allocation of time to learn their functions, and the system's presence and social penetration into individual's lives. Cellular technology and phones are extremely popular in South Africa and have a great social penetration. Part of the explanation of social penetration is the lack of fixed line penetration in townships and rural areas, and the unreliability of fixed line telecommunications

services in townships and rural areas. Nonetheless, cellular phones are widespread, with an estimated 12 million users (Gumede 2005). It is therefore hard to argue that demographic groupings that use and are highly familiar with cellular technology are unable to learn or adapt to more advanced communication devices. The connection therefore between use of cellular technology and the lack of use of PCs, if all conditions remain the same, must mean that there is a lack of presence of PCs. One could argue that cellular technology requires less of an investment from the users, and that a lack of economic development thus prevents individuals from purchasing computers. If one adopts this position then the primary cause then of the divide is a lack of economic development rather than the tertiary descriptive variable used previously. Yet to suggest that cost (exclusively) is the barrier to ownership and the only primary reason for the divide may be to obscure a more complex relationship between economics and attitudes associated with socialization, technology and familiarity with previous technological diffusion. The relationship of technology ownership can perhaps better explain why certain groups are choosing not to use computers as the study in the San Diego area found. Taking this into consideration the divide may have primary causes in a lack of economic development. However the divide is compounded by attitudes associated with technology.

This approach challenges the reductionism of authors such as Pinkett whose definitions are often too simplistic (Pinkett 2000). For instance, all Pinkett's work is based upon the compilation of divide characteristics into a single defining line (2000). For Pinkett the divide is 'the gap between those who benefit from computers and the Internet, and those who do not.' (2000: 9). Pinkett's solution is to create access so that beneficiaries can be created.

Pinkett makes the divide the initial problem, and that a solution can be found to address it. However, as argued above the divide is merely another symbolic and systematic symptom of a far larger set of problems: attitudes, previous familiarity, extent of technology employed in the environment, poor and developing economic systems, unstable legal systems, poor regulation, poverty, illiteracy, security and so on.

Within the context of the Digital Divide, advocates of FLOSS believe that it is the best-positioned technology to address the divide. They believe this for a number of reasons, some of which are FLOSS's innovation potential, the reduced or lack of licensing fees (Frost 2005), the potential reduction in cost of PCs, the potential to

rapidly improve software, the ability to localize software by customizing source code (adaptation to languages and cultures) (Translate 2008a)and the perceived inclusive nature of development.

The digital divide is, however, but one component and representation of a much larger shift in the politics of power. This power is manifested in the politics of information, and the changing realms of contestation. Because of the shift and dependence upon networks, FLOSS poses a significant challenge, one that is far greater that the digital divide.

The common theme in interviews I conducted with community technology advocates was that that primary reason given for using and adopting a community technology approach was that only could community efforts reduce the 'digital divide'. However this approach is not the best solution – a computer in every household would be the best solution, but that is under ideal circumstances. However, as not every household can afford a computer or its related devices the only possibility to gain access to these systems would come from outside intervention. As this intervention is governmental investment and / or donor investment, cost limitation is a common factor for that bureaucracy. Therefore, in an holistic environment of governmental economic scarcity, and competing demands for that government economic investment, such as health care and public safety, the CTC approach is mooted as the 'next best'. It is argued that the resources needed to make them functional are less than those needed for individual household intervention. All interviewees felt that access to information was crucial to creating developmental potential. This can be linked with a statement in April 2000 from former United States of America President Clinton where he spoke of the digital divide as the 'key civil rights issue of the 21st century' (White House, 2000).

1.4.4 A very short history of FLOSS

This section aims to provide a better understanding of the history of FLOSS, network advocacy and relationship between the two. In addition, the section aims to provide a framework for theoretical and empirical analysis that follows in later chapters. The section is not designed to be a complete history or chronology of FLOSS - instead the focus will be on why FLOSS has become a mobilization tool and

how FLOSS aids network advocacy. To accomplish this, this section will examine the forms of advocacy as well as the context of that advocacy.

FLOSS was developed in the United States during the 1960s within the Hacker ethic that was a sub-culture of America Counter Culture of the time but was primarily a phenomenon of the global 1990s Internet Expansion. As Hannemyr (1999) argues, '"Hackers" are identified as a specific subgroup of computer workers." – a cultural grouping - which can be applied to three interrelated subgroups: Computer professional in the mid 1960's; an assortment of Techno-hippies in the 1970s (refer to Levy 1984); and in the late 1980s as a subversive invisible criminal underground. These groupings are not separate from each other, and are to some degree an evolution of a counter-corporate-practice cultural-technical community who wish to create 'open' mass inclusive technological systems. Significantly, Hannemyr notes that:

> Some commentators (Anderson, 1993; Rosteck, 1994) considers hackers (of the anarchist variety) to be radical partisans, very much in the same manner the Russian nihilists in the 19th century was considered to be part the radical political movement of that time. Others (Kelly, 1994) have attempted to co-opt hackers as the avant-garde of neo-laissez-faire economic liberalism. (Hannemyr 1999)

In these formations, according to Levy, a Hacker Ethic has emerged. Briefly, according to Hannmyr's reading of Levy, the ethic has some basic attitudes. These are: reject hierarchies, mistrust authority, promote decentralization, share information, serve your community (i.e. the hacker community), build inclusive but merit-based communities, consider the technical work as a craft, and that that this technical craft is full of beauty and art (Hannmyr). It should also be noted that not all hackers are anarchists. As Pharffenberg points out (1988), most hackers hack to protest about their lack of inclusion in formal systems; once included in formal systems they abandon the protest. The majority of hackers are reformists, not revolutionaries (also see Raymond 2000a 2000b, Levy, 1984. Gorling 2003).

Although FLOSS culture can be described as rooted in the academic environment, and it does share many values with the academic world in general (Gorling 2003). However, most active developers are between the ages of 21 and 35 years of age (Gorling 2003) a number of research projects indicate that the most developers under the age of 35. Additionally and significantly, most had been involved with FLOSS

for less than 10 years (Escher 2004 reports that 78% had been involved for less than 6 years). Escher explains this by saying that public involvement in FLOSS is only a recent phenomenon. This lack of long-term involvement could be due to the age structure, or that the rapid growth of FLOSS during the 1990s. Another reason for the growth of FLOSS is the success of Linux (Gorling 2003). Taking this into account, the culture and practice of FLOSS can be said to be a development of the 1990s and not that of the 1970s.

While the social context of the emergence of FLOSS is important, the current context has evolved past the ideals and visions that early FLOSS thinkers proposed. The appeal to the early days of code and computing has elements of being an emotive response to the manner in which FLOSS is currently used.

In this way FLOSS has taken on the character of trans-national FLOSS ethic; a shared 'amateur' and 'professional' information ethics, which presents a strange combination of parallel, disorganized and often contradictory motives (see Kim's 2003 consolation of other research reports on motivations of FLOSS developers – WIDI 2001; BCG/OSDN 2002 and FLOSS 2002 – as well as Lakhani and Wolf's 2005, and Escher's 2004 work on political motivations.). Yet the FLOSS ethic also is a 'rebellion' and challenge to the practice of selling software commodity without access to the source code (see Tuomi 2005).

In response, a number of individuals and groups started to make their software available in the public domain. In 1991 when Linux was developed, awareness of FLOSS gradually started to increase profile and use. This continued until 1997 when Linux became a media phenomenon by having achieved a market share of 25 percent in the server market (second only to Windows NT at 38% - openkowledge.org 2007).

In 1996, Raymond realized that FLOSS was a new development model for creating software. He argued that by combining the sharing possibilities of the open developer network with the Internet network, effective and stable software could be developed (Raymond 2000a). His conceptualisation of this process identified ways in which others could follow the development model.

The years following Raymond's publication saw a number of FLOSS programmes gain significant publicity. These included Netscape 5.0., Mozilla and OpenOffice.org. Additionally there was commercial support for Linux with several vendors endorsing it. These included Oracle, IBM, and Corel. In addition, Intel and Netscape invested

in Red Hat, the largest English language Linux distributor, when it became a listed company in August 1999 (Raymond, 2000a).

What effectively enabled such success for FLOSS in the late 1990s and early 2000's was the spread and reach of the Internet. Without the ICT capabilities, it would have been impossible for geographically distributed programmers to develop software in a cooperative manner. O'Reilly termed this process network enabled collaboration (O'Reilly 2004). The network-enabled cooperation for FLOSS is based upon an exchange of source code. Importantly network enabled cooperation is not FLOSS, but merely a method of aiding FLOSS development.

FLOSS network enabled cooperation is not a solid structure, but rather encounters between companies, individuals or small groups that interact using the Internet, to 'upgrade', 'debug', and develop projects or portions of projects. There are a number of website communities that 'house', facilitate, support and register these interactions and developers teams (Freshmeat.net 2008 and Sourceforge.net 2008 are two examples). Ljungberg argues that FLOSS developers constitute a community, identifiable by a larger common 'ideology' or common development practice, which operates in the same way as a community (Ljungberg 2000). Within this ideology, subgroups are formed around projects within that community, and such subgroups may vary in the extent to which they conform to the overarching community ideology. Ljungberg suggests that commitment to the 'ideology' varies widely across developers (Ljungberg 2000). The ideology that Ljungberg refers to is the belief that the source code of computer programmers must be included in the transactions for software products. This position is contested by Walker, who argues that community theorists merely adopt a narrative approach while neglecting the economic drivers (Walker 2006).

However, communities are not exclusively defined by collective belief or ideology. While FLOSS developers might be identified as a community, it is not exclusively because they share a common ideology. Rather it would be due to continued interaction. Common practice does not define community; it is rather the shared interaction and experience (or imagination thereof) between members that constitute 'community'. This holds true even in times of conflict. Given this argument, there is a framework and structure for FLOSS virtual communities (and by extension advocacy networks) to emerge. The typology would be a virtual community network.

The unrestricted access to the source of the software, and ICT networks that facilitate efficient distribution and scrutiny of source code software by any person who has access to that network has created some good and solid software products. Additionally by allowing the source code to be distributed, anyone with the skills to do so would be in a position to add to that software's development. What entrenched this source code openness is that its various software licences specifically required the source code to remain open. Therefore, even if the software was sold commercially, the consumer would still be entitled to the source code. As Castells argues:

> Only a network of hundreds, thousands of brains working cooperatively, with spontaneous division of labor, and loose, but effective coordination, could accomplish the extraordinary task of creating an operating system able to handle the complexity of increasingly powerful computers interacting via the Internet. (Castells 2001: 45)

The success of keeping information in the public domain has subsequently been replicated for content creation. Wikipedia (wikipedia.org 2008) and Creative Commons (creativecommons.org 2008) are two examples. These groups advocate that content should not be subject to IPR as they hamper the circulation of information and knowledge and thereby exclude people from improving their circumstances. The FLOSS movement has in effect sparked, and become a rallying point for information advocacy. Often when reading texts on FLOSS or about FLOSS one encounters Open Access, Open Source, and Open Content. These are all related to the advocacy over the digital divide and various efforts to bridge it.

There is however one problem in the advocacy from the 'South' regarding FLOSS as the saviour. Again this 'volunteer' model has arisen in the developed world, especially the United States where there are implicit subsidies provided by wealthy institutions, well-funded universities and corporations, in addition to the capable ICT infrastructure which allows the development of FLOSS. Proponents for FLOSS argue that it can be a viable structure for a software development model within these environments in the sense that it can attain its objectives. However, it remains questionable as how this model would work in poorer countries where infrastructure networks are not as adequately developed. Furthermore, the numbers of programmers in the 'South' do not come close to matching those in the 'North'. This brings us

back to the Internet as merely being an encoding of the world in which it is created (see section 2.4).

This rebellion is not revolutionary. It is simply an alternative way of conceiving how source code should be utilized. Critical to this project is network-enabled cooperation.

Opposed to technological innovation arguments and proponents such as Raymond, there are FLOSS developers that view IS, code and software in frank political terms (see Sallman's 2008 collection), and generally could be said to collect around the term 'Free Software'. This group view centralized IS as valuable resources that are being enclosed, or even kept away, from ordinary people by corporations and governments who seek to either to extract value or to limit others from accessing its power.

The objective of this particular group of FLOSS developers / advocates is not merely to win access to systems for themselves, but to increase this access to incorporate others. It is from this mass systematic access that equality in opportunity would arise for 'which ever way you want to cut the cake' minority groupings. These claims and contestations are however too early to clearly identify how systems will end up looking. One thing, however, is certain; claims on technology to empower 'the People' have not come from 'the People'.

Additionally there are ideas (outside that of the FLOSS developers themselves) that FLOSS development practice and the release of software constitute an alternative way of production and product to that of capitalism. This pattern of thought is often attached to The Left or information anarchists. Critics of capitalism claim that this technical innovation is proof that alternative methods of production and exchange are possible, fuelling expectations that the FLOSS model can present a counter concept to a capitalist society. Less radical supporters believe the model is leading to a more responsible and accountable form of scientific progress, as the development processes are transparent and open for participation of a broader public.

It is at this point that we must make a distinction between individuals and groups that use FLOSS, and the FLOSS developers who invent software; a distinction between 'users' and 'creators'. Importantly, FLOSS developers are themselves users. We must keep this in mind as individual developers can also attach their ideology. The attachment of ideology can be attributed to the FLOSS licenses that allow (re)distribution. In the process, intermediaries can attach their ideology to the software. This occurs for FLOSS itself does not have an overt political agenda other

than increasing inclusion and access to a virtual public space. Rather, there is a presentation of political apathy from FLOSS developers (Escher 2004). As Escher points out, FLOSS developers do not have radical political views. Nor is the structure of FLOSS 'anti-capitalism'. Simply, its 'commercial' structure in the form of its various licenses allows the person in possession of the product to decide whether to attach cost for the FLOSS product. These transitions are not anti-capitalism, as the developer or intermediary decides what the transaction price will be to (re)distribute the software. Instead, the economic components of Stallman's writings contain elements of radical Libertarianism (Berry 2004). The political articulation is however based upon a core American Hacker Ethic. Due to the inclusive nature of the FLOSS ethic, and the simple process of agreement with open source code, political ideology (external to FLOSS) is easy to attach to the code and product. This creates a difficulty when attempting to assess the 'core' ideals of FLOSS 'creators'. The differing developmental paradigms inside the movements (FS and OSS) do not make the process any easier. Simply the politics which surrounds the debates on the property of code has to some extent created discourses and rhetoric (from all sides) which are in many cases overtly optimistic, unrealistic, aggressive, and or simply distorted. These discourses and rhetoric have more elements of propaganda and semblances of public relations than a balanced account of the real elements of FLOSS. This has created a situation where FLOSS development and code gains an attachment of ideology.

Yet it is possible to strip away political attachment and categorize the 'core code' of FLOSS. Commonality between Open Source Software (OSS) and Free Software (FS) essentially comes to the belief that source code must be made available as part of the software package. With the freedom and choice to participate in the licensing agreements of FLOSS in return making sure the source code is open, the technology has the embedded values of liberal choice and freedom. These embedded values also presuppose that a society may be free to choose to alter technology and may be free to distribute it. FLOSS can only exist in societies that embrace and practice these values. This action is indeed political, as groups are attempting to exert pressure for change. This attempt to influence begins in the virtual public space. As software is a prerequisite to gain access to this virtual public space, the FLOSS social movement is attempting to be inclusive in there desires for a virtual public space and the information contained within it. By creating distributable source code, and

consequently checking software prices, and pressurizing the industry for reform, the social movements aims to build an 'open' civil society infrastructure. These actions are political in nature, and have political repercussions, even if they are not portrayed as radical politics. Therefore, the "nature" of the FLOSS social movements is their attempt to fight against exclusion, and create inclusive virtual public space.

1.4.5 Civil Society

The term global civil society, as Anheier et al notes, is somewhat 'fuzzy' (2001; 11), and 'can be all things to all people' (2001: 15). This 'fuzziness', they argue is due to a lack of a clear empirical category (also see Hewitt de Alcantra and Minujin 2000). The term can refer to

> [t]he protestors in Seattle and Prague or Greenpeace's actions against transnational corporations: in other words, a counterweight to global capitalism. For others, the words have something to do with the infrastructure that is needed for the spread of democracy and development: the growth of professional associations, consumer organisations, and interests groups that span many countries. Yet others identify the phenomenon with the efforts of groups like Save the Children or Médécins sans Frontières to provide humanitarian assistance: global solidarity with the poor or oppressed. Or perhaps the term just refers to the growing connectedness of citizens: Internet chatrooms, networks of peace, environmental or human rights activists, student exchanges, or global media. (Anheier et al 2001: 3)

'Civil society' has become a 'catch-all' category for non-state and non-capital collectives (defined negatively) who have overt political agendas and fall between the concepts of the 'the state and the individual' (Van Zyl Slabbert 2006:143). (For a history of the term see Cohen and Arato 1992, Hall 1995, Keane 1988, 1998, 2003, Kumar 1993, Seligman 1992, 2002 and Tester 1992) Yet do all persons with a political agenda constitute civil society (defined positively)? Anheier et al argue that this question repeats early debates in early contract theorists like Locke and Hobbes – is civil society the active limitation of existing power structures? They cite Ferguson, Hegel and Marx to make this point. Briefly, Ferguson argues that through the embodiment of 'civic virtue', civil society chooses and contests societal values (Ferguson 1767[1995] cited by Anheier et al 2001). Hegel noted civil society's

interdependence with newly democratic European state structures (See Anheier et al 2001). This is something that we note in South Africa and its civil sphere during the 1990s (Glaser 1997; Zuern 2001). Marx's reading of Hegel's interdependence led him to posit that Ferguson's 'civic virtue' and social values represent the values of those that have formal (and hidden) political control and, occurring to Hann (1996) Marx's conception of civil society is similar to Adam Smith's.

Returning to questions of associational life, Putnam (2000) argues that social capital is generated through civic association of what Seligman terms the 'autonomous agentic individual' (1992: 5). This 'capital' can then be harnessed for political ends. Here again questions can be raised regarding what political ends, whose political interest and values and the extent of agency due to the contextulozed individual? As political interests, values and actions are related to identity, culture and practice, one cannot take for granted that civil society "fits neatly" into a political territory or unit. If civil society is not naturally a component of the national, then recognition must be given how civil society is created and maintained across political unit's borders. The recognition of trans-political elements challenges arguments that proclaim that civil society was a congruent with a state.

The concept then of transnational civil society questions several of Marx's conceptions, specifically that of a national and patriotic middle class civil society as mediums and implementers of capital's values. This questioning was primarily led by several writers who in the late 1990s argued that overt western models of civil society topography heve limited the understanding of social organization in different political cultures due to excessive focus on civil and state separation and relation (see Hann and Dunn 1996, Rabo 1996, Sampson 1996, Seligman 2002, Chambers and Kymlicka 2002, Hanafi 2002). Yet while these writers have focused on intra-political units civil-politico relations, none broached the subject of the role of the international system and civil society. Currently the international political and governance system is founded upon state-centric political governance and recognition. States are the dominate political units and actors in the international system. This is not to say that they are the only actors, but that state-centric governance is paramount at the moment. Hence, Marx's analysis has strength in that it can accommodate interests that are non-nation based and overlap political unit's territory. This illustrates that common interests in non-state non-capital collectives create civil society. As interests, and collectives thereof, can transcend borders, civil society by nature can have

characteristics of the transnational (Florini 2000; Keck and Sikkink 1998) and global (Cohen and Rai 2000; Anheier et al 2001). Importantly, these collections of interests have political agendas (values, actions and programs) and are using a variety of mechanisms to achieve their political goals.

At the most basic level global civil society refers to the emergence of a supranational social and political participation. This emergence has been facilitated and enhanced by ICT, and by the increase in the available capital (traditional, social or otherwise) that has emerged in the latter half of the twentieth century and early twenty-first century (see Castells 1996, Hewitt de Alcantara amd Minujin 2000). The effect is that there is leeway for groups outside the main centers of international power to gain access to power. This participation involves citizens groups, social movements, and individuals engaging in dialogue, debate, confrontation, and negotiation with each other, as well as with various governmental actors—international, national, and local—and the business world. The implication for the individual is that he/she is able to connect to cultural nodes that were impossible even several decades ago (and are still impossible in some regions). As Hewitt de Alcantara and Minujin argue:

> through improved telecommunications millions of migrants remain in touch with their places of origin, and thus reinforce their own identities despite strong pressure to become assimilated into the cultures of host countries (Hewitt de Alcantara and Minujin 2000: 16)

Yet simultaneously the coherence of identity is fragmented (see Rouse 2002). Apart from having a significant impact upon concepts and practices of multiculturalism and cosmopolitanism by perhaps decreasing the degree to which these aforementioned groups interact, circulate or fragment in societies, this isolatory aspect diminishes prospects of wider social capital. Self-isolatory actions can also lead to friction between groups. Hence, society faces challenges to existing patterns of solidarity and mutual support. This impacts upon local social dynamics. Other social consequences include the shifting of loyalty away from the national. Further, the economic structuring of global trade links individuals to the global economy. This linkage has enraged many as neo-liberal policies have become the dominant economic system. This has often had a polarizing effect. Yet, as demonstrated by this thesis, the same

process that has created this social turbulence can be used by global civil society to create cohesion and new spheres of solidarity.

This thesis will attempt to avoid globalization debates, as they are not central to this thesis' primary objective. Suffice to say that global civil society can be seen as a reaction and consequence of globalization, but at the same time needs globalization's mechanisms to sustain itself. This presupposes that globalization works on all societal subset levels such as politics, economics, culture and religion. As such, globalization can be viewed as a product of increased interaction between geographically 'distanced' groups of individuals. Global civil society is in one sense brought about by this interaction.

FLOSS as a structured framework has provided a nodal point for interests and advocacy to collect around, in turn becoming a supranational pressure. As Escher's (2004) research shows FLOSS developers are not exclusively regionally located[8]. Key here is that there is transnational participation in the FLOSS movement, which in itself indicates transnational influences in civil society. Importantly, we find due to growth of this non-formal transnational civil society that there is a change in the patterns of civic engagement. Participation in this engagement is not concretely defined, nor is its structure and involvement defined in strict ideology, formal political processes and formal association. Rather there is tendency to see, for lack of a better term, movement politics. This pattern of engagement sees limited association by unorganized individuals regarding specific issues between lead organizations and formal political structures. Contestation within this pattern of movement politics is a contest of specific values as opposed to a structured ideology. This engagement enables less formalized forms of civic engagement to extend the public sphere. However, it must be remembered that access to the technologies is not universal. It is in this context that the selected case study organizations are advocating on increasing the number of those that can participate in the civic engagement to extend the public sphere. The selected case studies by aiming to increase participation are in turn attempting to alter the existing trends in social transformation, which by virtue of being exclusive; the existing trend of social transformation would not have had the opportunity to be influenced by those that are excluded.

[8] In Escher's 2004 work South America was poorly represented by only one percent, but that can be attributable to research design rather than a lack of interest.

Effectively, global civil society online (and FLOSS advocacy network enabled cooperation) reflects the contestation over participation and civic engagement over internet itself. For one, the internet is means and tool to create and distribute products and capital. Yet it is also a site of advocacy and a medium for resistance. These two actions, which can be contrary, are both possible online due to the status of the internet as a commons. The protocols, and their open standards, place no restriction on action. Through network-enabled cooperation, network advocacy enables various social actions and mobilizations in which interests confront globalization through new forms of communication, community building, engagement, resistance and mobilization. In this manner, the protocols, standards that allow network enabled cooperation also allow a plurality of participation that then can manifest a variety of organizations and agendas. Global civil society is one of these agendas.

1.5. METHODS AND ETHICS

1.5.1 Methodology

The research adopted a qualitative approach to generate data, including the following research techniques: documentary analysis, key informant interviews, and online observation of selected case studies. These methods were chosen as they were considered the most effective and efficient when collecting new primary material . To compensate for the weaknesses of each, multiple data collection methods were deliberately chosen. Additionally, where possible, data triangulation was used to confirm findings.

Documentary analysis was used to consider developments in the research fields, as well as to understand the background. A documentary analysis was conducted on available documentation, research information, policy documents, and legislation. This approach utilized previous research from disciplines that have focused on FLOSS (such as economics and computer science) which are complementary to compile a framework for investigating organization.

To supplement this, a comprehensive critical review of the position of ICT and FLOSS in advocacy development literature was compiled. This literature was interrogated to determine the strengths and or weaknesses of the position and to

determine how online literature is used for mobilization and organization. In addition, relevant literatures on the conception of public space and the Internet were reviewed.

In depth key informant interviews were conducted with specific individuals in advocacy networks affiliated in some manner with FLOSS by either: application; utilization; development; promotion; or distribution. Further, interviews were conducted with individuals who are (or have been) involved with FLOSS applications and other forms of propriety software programming and/ or utilization.

Online observation was conducted on the various advocacy networks online presence to create an organizational analysis. While not attempting to become an institutional analysis, the online observation focused on online organization for political mobilization. The observations formed the basis for the various case studies. The analysis allowed the research to link macro-level theoretical statements and micro-level empirical findings. The organizational observation and analysis enabled the formulation of description of the internal relations of the community, as well as its approaches to organizing its politics.

The primary sites selected for the research practice were:

- translate.org.za;
- womensnet.org.za;
- apc.org.

The selection of these cases was motivated by their each being a type of advocacy network at a different 'level' while utilizing and embracing FLOSS technology and principles in that they either use FLOSS to aid advocacy, or that there efforts are focused on the range of challenges that the FLOSS movement exposes. Hence these organizations are both users and creators. Additionally each organization has a strong identity and provides content online. As each one of these habitus represents a different 'level of advocacy', it is important to specify these levels and evaluate their initiates and programs in a developmental context. Van Reijswoud and Mulo provide a simple framework (macro, meso, micro) to evaluate the implementation and dissemination of FLOSS (2005). They differentiate level according to focus. The first is the macro level where ICT policies and actions at a national level or

international level are considered. At the meso level, organizations are considered which either do or do not take actions to integrate FLOSS into their total software infrastructure. The micro level focuses upon individual users who decide for or against FLOSS (Van Reijswoud and Mulo 2005). For instance the APC functions at a macro level while Women'sNet functions at a meso level. Translate.org.za functions at a micro level. Each uses the internet to both expand and enhance their particular form of advocacy. Thus the particular use of the internet as a tool in each case in accordance with their particular level of advocacy was seen as useful to examine the trends and ramifications of network advocacy.

The selected sites were investigated from the perspective of being the online presence of network advocacy collectives. The habitus was selected primarily because of its observation potential. The habitus' having various media repositories, archives and hypertext linkages provided large amounts of data. This data however held significant political agendas, and reinforced arguments such as Derrida's on archives having political purpose (Derrida 1996). Thus the data is polemic, emotive, 'whitewashed' and reflective of certain interests and perceptive and forms a tinted lens on the actual events from which the habitus data has been constructed. The data certainly forms a component of contestation within the context detailed above; however it is also a representation of contestation and repression within the organization (See Bourdieu 1977[1988]: 37). A brief description of each organization is given:

Translate.org.za was formally established in 2002. The organization uses volunteers and a core staff to localize selected FLOSS software to several languages used in South Africa (see Figure 1). To date the organization has achieved significant results in the localization process. Their primary advocacy is regarding software and language rights. FLOSS is used as a tool for this project.

Figure 1: Banner from translate.org.za, specifically focusing on the organization's byline

Womensnet.org.za is a mid-sized NGO that uses FLOSS to lobby, research and provide networking support for other gender-orientated NGOs (see Figure 2). The

organization has a variety of projects that they conduct in a variety of organizational structures. These structures depend upon the situation encountered, the form of activism, and the relationship with partnering organizations. A member of apc.org, womensnet.org.za has functioning since 1999 originally as a unit of sangonet.org.za, and from 2003/2003 independently.

Figure 2: Banner from womensnet.org.za, note the organization's byline.

Apc.org is the Internet habitus of The Association for Progressive Communications, a network which has collectivised to reflect the views of multiple network members such as womensnet.org.za. As illustrated in Figure 3, the origination is primarily concerned with the use of the 'Internet and ICT for Social Justice and Development.' The interests and values in this positioning of 'social justice' reflect an advocacy orientated towards issues like 'social change', 'local ownership', 'South' and 'affordable IT' (see Figure 4). They argue that the Internet, as a technological revolution will and is having profound implications for society and that if this technology is in the hands of political and economic oligarchies in the 'North', then the Internet instead of becoming an emancipator, will reinforce inequalities.

Figure 3: Banner from apc.org habitus, note the organization's byline.

Figure 4: Chopped picture of the back cover of the APC Annual Report 2006 representing the issues and interests of the APC.

The three case studies were selected to illustrate a different aspect of transnational networking and the influencing role of open standards networking on that particular aspect. On important aspect to highlight is that all three case studies are orientated towards FLOSS advocacy, FLOSS principles and thereby are directly involved in creating an electronic infrastructure to facilitate their advocacy. Hence the case studies symbolise the nexus between infrastructure and the limits that infrastructure imposes on advocacy. In this way the APC demonstrates transnational networking and the implications thereof. Women'sNet highlights the partnerships between various organizations emerge and who these relationships are deployed in a network fashion. Lastly Translate.org.za demonstrates the effectiveness of a volunteer organizational model, thereby emphasising the relation of the organization and its supporters. These research sites are representative only in far as they operate at a different level, and demonstrate the aforementioned characteristics. Subsequently this is a limitation as to how far their behaviours can be expanded to other organizations. Furthermore, all the research sites lobbied both for FLOSS as well as pursuing more substantive issues. Hence FLOSS was used instrumentally, as well as being a substantive issue in its own right. This aspect was further enhanced when the pursuit of FLOSS objectives was coupled with other concerns, such as with translate.org.za who lobbied for FLOSS while using FLOSS to create software for African languages.

1.5.2 Ethical Considerations

Ethically there is very little scope to invade individual space and privacy, for the subject limits itself to common interoperable space (the Internet). Regarding interviews the rights of the individuals was upheld and respected. Further, their identities were protected if they so desired. As all interviews were recorded, a typed print-out of the interview was sent to each participant if requested.

The ease of which information can be observed on the Internet makes it an area of interest for researchers. Accessible to the researcher are textual repositories, websites, newsgroups and chat rooms. In this case, to accomplish the research goals, the thesis examined a number of advocacy networks. Specifically with the online observation there were a number of issues that need to be addressed. These include representation, form of observation, expectations of privacy of content published online, and the differences between online data collection and data which has been collected offline.

In this case the research objective was to seek how particular advocacy networks organize and mobilize using FLOSS to advocate for FLOSS and information rights. This required an in-depth understanding of particular experiences in addition to an observational approach which focused on the advocacy that each particular organization has published online. Message boards which are published to the general Internet population without the need for access via a password were deemed to be in the public domain, thus informed consent was not required. While the research focused on the advocate networks, it is worth noting that the Internet is still a social context and thus is embedded within a number of social dynamics.

1.6. CONCLUSION

One can argue that ICT and the value which it creates, the ease to access that value, and the speed of both processes is partly responsible for the longest sustained economic boom in the United States history, and it has helped that country increase economic, technological and political dominance. Yet ICT has also allowed other economies to increase their productivity, and allowed multiple voices to emerge. For an individual, it has also significantly altered the manner in which they organize and conduct their life.

Due to this core dynamic, there are a variety of advocacy networks which have emerged to contest the freedom and openness of information and knowledge. What

has enabled them to become effect organizers is in many cases the digital technology which they are advocating should be 'open'. Thus the Internet (as a medium to convey this information) and the movements which seek to promote access to information are crucial focus of this thesis.

In a similar manner to the FLOSS movement, which does not aim to remove *commercial* software (Wheeler 2007), these movements wish to create debates and seek alternatives to current or future political configurations. In essence they argue that the digital realm is too important to leave exclusively to capital enclosure. They argue that there needs to be a balance between publicly accessible knowledge and proprietary services based upon 'open knowledge'.

Without digital familiarity, a person's life chances are significantly hampered in the contemporary global networked economy. In this case access to the Internet and FLOSS together provide an opportunity to increase life chances while at the same time having significance upstream and downstream effects. One just needs to take the case cited by Bezroukov that the Mexican government, by using a FLOSS program, did not spend $124 million (Bezroukov 1999). In this case, the budget can be used for other activities. That it provides, by existence, *choice* is its most important attribute. The Internet allows one to find those choices. And that is why these advocacy movements seek to ensure that it stays open. Yet this itself has a range of power-relations struggles within advocacy and its organization that need to be explored to understand the implications of open knowledge, the impact upon the political economy and how open systems are configured in contemporary global network society.

CHAPTER TWO
THEORETICAL AND CONCEPTUAL FRAMEWORK

2.1 INTRODUCTION

In recent years, activists have been able rapidly to increase and mobilize support for their concerns or for particular events – Seattle 1999, Quebec 2001 and Genoa 2001 are some well known examples (See Shah 2003 for other examples). Diani attributes this increase to the greater implementation and use of ICT by these social movements (Diani 1999). An example of such is protest.net (2008) and HitchHikers.org (2008) which are two organizations working together to inform, mobilise, publish and facilitate transport to and from protests. Both of these organizations are web based and have separate identities and organizations.

The use of ICT to reform or protest can also be seen in political reform. This was most evident in January 2001 in the Philippines when President Estrada was overthrown by protesters who used short-message-service (sms) and IT to coordinate demonstrations and protests (see Burton 2001).

There are several factors that make the Internet attractive for campaigning. These include its relatively quick transmission speed, its global reach, the ability to link the local and the global, low publishing cost and continual access. This is in addition to the lack of regulation. For these advocates the internet has become an important alternative source of information to official and mainstream media (see Lindenschmidt 2004), and a powerful means of connection, outside of mainstream institutions. It is a truly mass medium, enabling individuals world-wide to share information and converse.

However, while the Internet does not differentiate information by age, status, geography, or point of view, it has created new forms of individual power, social inclusion, and mass participation, it also amplifies existing forms of social exclusion. Importantly internet access is determined by, and can reiterate, existing social and economic relations. For those that wish to contest these relations, they have a number of placeholders (Web 2.0., semiotic democracy, read-write web, Internet 2.0. dynamic web) for a mass-interactive-user-generated-content-driven-network. Importantly, emphasis is on ‘the generated’, not ‘the determined’ (as in demand and supply connotations). The key here is to turn the Internet into a tailor-made expression of

self, expression of need, expression of want…interest…ought to…and ought not to. In this sense there is an effort to recapture or at least simulate the structure and function of the original internet, when all clients were servers and all servers were clients, an all-client-all-server model. In this case their advocacy is articulated as a reformation of relations minus the enclosure.

There are a number of points of contest that these advocacy networks address– open content, open access, open source and open information being the primary collecting points. These points can be reduced to an open society. However these all relate back to the role of IPR – the role of structures (IPR as a set of legal structures) influencing interaction (the creation of-) and the practice culture. Advocacy for the open society is related to free culture and structures which would allow both. Effectively, FLOSS orientated network enabled cooperation network advocacy, by using FLOSS for activism purposes are contesting the configuration of the polis, its architectures and its related structures and systems.

The argument for open societies is motivated by the political desire for individuals to be free to participate in every facet of that society if they wish and have the skills to do so. In a liberal society, the transparency of actions and information (through openness) would create a politics in which every individual can, if they have the ability, maximise their life politics. Thus for these advocates, the configuration of architectures of structure therefore needs to be altered to form an open society in which the aforementioned goals can be attained.

To address how one particular section of these advocacy networks organize, inform, mobilize and use their activism to achieve their objectives, the question becomes is this activism conducted through online networks? This question seeks to address how and whether in an increasingly 'wired world', the internet will become an increasingly important tool in the struggle for rights and justice? The following sections will examine the mechanisms, structures, practices and objectives and the embodiment of objectives of network advocacy. These sections will collectively present a foundational framework that will be used for later analysis in chapter three which will explore the implications and possibilities for network advocacy mobilization. Subsequently the argument in this chapter is that the mechanisms of advocacy and the forms of advocacy are interwoven and connected. Hence this lays the foundation for the argument presented in chapter four which positions that the possibilities of advocacy are dependent upon the constraints of the environment.

Explicitly electronic advocacy is dependent upon an electronic infrastructure and the code therein. Subsequently efforts to privatise the Internet through IPR will then decrease the opportunities for internet facilitated advocacy.

2.2 THE HABITUS

Structures, infrastructure and architectures establish norms and limits – moral, physical or social. At their most outer edge they create frameworks in which actions are conducted. This systematic approach might seem to disagree with Bourdieu's conception of culture as 'a system of choices which no one *makes*' (Bourdieu 1962; 11), but structure, infrastructures and architectures are choices made by power collectives. These structures then create the framework in which choices are delimited. A systematic approach therefore does not create friction with Bourdieu's 'habitus'. We recognize and accept King's (2000) argument that there is a conflict within Bourdieu's collection of work in which Bourdieu simultaneously argues that determined individuals are in a habitus yet also have some 'freedom' of interaction. These positions can exist together provided that the habitus and other social structures are thought of as limits or fields of free action. There is structure which creates the field and fences in which the social create their habitus. Research focusing on the relations of individuals within the field must then take the approach neither of the objective or subjective but rather the inter-subjective. As Foster comments on Bourdieu's work, the habitus is an interpretive device (Foster 1986), social in origin, used to create 'a system of dispositions' and regulate behaviours in the social environment – 'structuring structures predisposed to function as structuring structures' (Bourdieu 1977[1988]; 72). For Bourdieu there is a link between the micro and the macro, between agent and structure thereby creating the realm of experience. Hawker minimally models this as

Figure 5: Hawker's minimal model of the relationship between habitus, practice and structures (Harker 1984: 120).

But when making allowances for the environment, Hawker's model looks like such

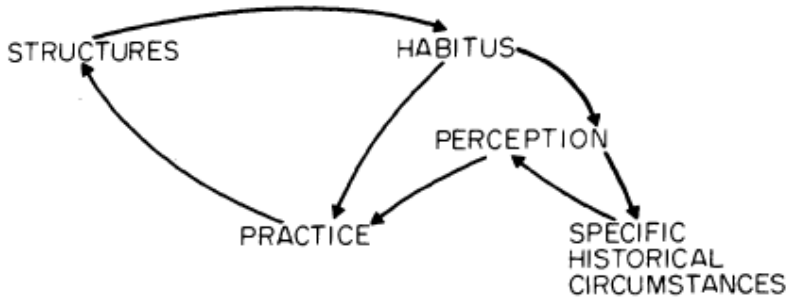


Figure 6: Hawker's more complex model of the relationship between habitus, practice, structures and the environment (Harker 1984: 121).

In addition to Hawker's model, there are multiple habitus operating at different levels which range in spectrum form the grand all inclusive habitus to the habitus of the individual. One must be clear about the selection of habitus – the habitus under investigation is that of the online website and its associated network advocacy. This is not a break from Bourdieu but constitutes the use of his lamp to explore new territory.

Using Hawker's models, culture is produced by the interactions between habitus, practice, structures, environmental legacies, and biology (perception). Culture is important due to the effect that it has on establishing and/or maintaining the organization. Briefly to deal with culture, Hallett argues that the two main schools of thought on culture – the subjective values to guide practice (Hallett cites Gagliardi 1986; Schein 1991a, 1991b, 1997) and overarching meta-beliefs (Hallett cites Geertz 1973; Pettigrew 1979; Trice and Beyer 1984) – cannot explain change and choice simultaneously independently (See Hallett 2003). Hallett suggests by examining culture as 'a negotiated order' and as continually contested[9], then the relations (and the structures that allow or constrain them) produce that symbolic power and allows

[9] Hallett relies upon a reading of Strauss 1978 for this position (Hallett 2003). This position of contestation and as political dynamic links into Hobsbawn and Ranger's invention of tradition thesis, that contestation creates traditions, symbols and culture.

for the contesting that symbolic power as a powerful force to create cultures becomes the foremost areas to explore to understand change and power.

Thus the online habitus as a site from which relations grow to create both interaction and practice is both influenced by structures, and influences the future structuring of structures, which occurring to Giddens is somewhat of a recursive link. Culture that emerges in this 'negotiation' (/contestation) in interactions boxed by those who structure structures. It is primarily at this level that the network advocacy challenge existing centers of authority by using online habitus.

Online structures, infrastructures and architectures are all related to power, choice and contestation offline. Yet critical is that the Internet is a habitus solely dependent upon technology for its existence. There is a connection between the technology, habitus and power and the organization that it produces.

Building upon the context outlined in Chapter One, this chapter details a number of crucial concepts that will be used in the subsequent analysis. These concepts emerge from an engagement with socio-technical literature. Briefly, these concepts are technology, ICT, the internet, source code, network organization and mobilization. Their selection is due to their direct involvement with FLOSS advocacy, or as in the case of technology, FLOSS is a technological artefact and must be located as such. The concepts of network organization and mobilization are introduced here. These specific concepts will be dealt with in subsequent chapters.

2.3 TECHNOLOGY AS POLITICALLY RElEVANT

Positing that technology, even if autonomous, was at one point created (or initiated) by human actions, then we can consider technology to be linked with politics (power, choice and contestation). In this conception technology is a response to the environment, and overcoming the limitations of that environment. This thesis articulates technology as tools which are directly tied to the particular.

As the particular evolves so the common meaning and understanding evolves. This is reflected in the use and application of the term technology. In the nineteenth century, technology referred simply to the practical arts used to create physical products or artefacts. In the twentieth century, the meaning of the word was expanded to include everything involved in satisfying human material needs and wants, from factories to engineering knowledge. In the twenty-first century, technology refers to

mass complex systems which aid in fulfilling needs, desires and interests. As the nature of the term 'technology' changed, its meaning became vaguer; leaving room for misconceptions that have sometimes led to questionable conclusions. It is for this reason that I seek to peg technology.

Thus while the understanding of technology is contested, its definition is fairly concrete: Technology is the process by which Life Objects (humans in our case) modify nature (their environment) by creating objects to meet their needs, wants, interests and aid in accomplishing activities.

We must remember that Homo Sapiens were not the first species to use technology - instead this distinction belongs to early Hominids about 200'000 years ago, although 'fire management' was crucial for life for Hominids 1.5 million years ago in the Sterkfontein region (see Brain 2005 for evidence). Further Goodall's research work in the 1960's demonstrated that chimpanzees in Gombe used technology (simple technology but technology none the less) (see Goodall 1971[1974]) It must be pointed out that prior to Goodall's work the standing belief was that humans were the only animal to modify nature to assist in accomplishing activities (see Goodall 1971[1974]). As a side note, it is interesting to discover that some chimpanzees use tools which are similar to Plio-Pleistocene era tools (Joulian 1993 and 1996a cited in Joulain 2005 and Goodall 1971[1974])[10].

Thinking of technology in this manner also allows us to recognize that chimpanzees who use sticks to catch ants are not using technology (not a modified object) yet early hominoids who created spears and rock knives where technologically enabled. Technology is more than complex artefacts such as computers and airplanes, but rather is a is fundamental aid to accomplishing tasks.

Technology is also of political relevance, as it aids individuals, groups, and societies to interact and extend (or prohibit) the possible. Thus it becomes a crucial component *of* contestation and *in* contestation. We have certainly seen this in the development of the internet which creates sets of relations which prior to the internet existing were not even thought of as being possible. These sets of relations are

[10] Brain (2005) has set five requirements for mammals to have the ability to create technology. These are critical minimum brain size, suitable appendages for manipulating objects, social organizing which promotes the collective effort required for technological undertaking, a 'language-like' communication system for the exchange of concepts and the appropriate birth canal adjustments to allow for passage of an offspring's head (Brain 2005).

directly political. Thus it is important, as Fukuyama (2002) notes with biotechnology that political concern is given to technology. This is due to its constant engagement that technology, as a form of politics, has with the political, the values that emerge from human interaction.

Contemporary debates surrounding technology and politics revolve around social change and determinism. Here literature on the subject asks whether the social drives technology or whether technology drives the social (Aley 2002; Feeny and Willcocks 1998; Malone and Laubache 1998; Earl and Feeny 2000; Galloway, 2004; Brende 2004(2005) Betz 1998; Savas 1999; Schneider 1997; Schwartz 1970). These debates have a number of variants, some of which include:

- How can technology be used for innovation and to create profits?
- Is social progress possible under the current technological system?
- How to harness technology to improve the quality of life?

At the core of these questions is an orientation towards and a questioning of control and how it operates. Canonical writers such as Leo Marx, Marx, Mumford, Heidegger, and Ellul in their techno-social literature have discussed issues of control, and this question is at the foundation of nearly every techno-political work (Ellul 1990, 1964; Mumford 1963; Heidegger 1954[1977]; Leo Marx 1994, 1997). The events examined might have shifted to the internet, supply chain networks, and biotechnology (Lessig 1999, 2004, Friedman 2006[2005], Fukuyama 2002), yet ultimately the core question concerns control and power over the technological artifact. The case studies position this contest as over 'information rights'. Their advocacy is for how technology could be used for social gains, and in a more equitable manner. They contest existing power and control configurations over technology, which is a direct contestation of power and control.

To assist in clarifying positions regarding power and control, we can use Feenberg's (2003) control classification table:

Technology is:	Autonomous	Humanly Controlled
Neutral (complete separation Of means and ends)	Determinism (e.g. modernization theory)	Instrumentalism (liberal faith in progress)
Value-laden (means form a way of life that includes ends)	Substantivism (means and ends Linked in systems)	Critical Theory (choice of alternative means-ends systems)

Table 3: Feenberg's control classification (Feenberg 2003)

The above table illustrates several positions in socio-technology literature. Using two axes; one which represents the degree of control that human actions have over technology while the second axis represents the degree to which technology has internal embedded values. In all cases technology is political as it either has control, is controlled, has attached values, or has embedded values. Therefore, each position in socio-technology literature will affect the ability of individuals to attain their goals, needs or desires. Hence, technology has a significant influence on Giddens' life politics.

The problem with considering technology in its meta form would force us to absolutely place technology in one of the four boxes that Feenberg describes. This in effect would return the debate to Heidegger and his Technological essence (1954[1977]), and to a greater degree this is precisely what some of the major writers in the field did between the mid 1980s and mid 1990s (See for instance Marx and Roe Smith 1994[1995]; Serres and Latour 1995[1998]; Mackenzie and Wacjam 1985; Pinch and Bijker 1987). Yet technology and its relationship with the social is not about its whole, rather it is about technology's particular use and meaning for those that use it and the context in which it is used. If we acknowledge that technology merely provides devices that, enable certain activities, this forces us to examine

technology as a meaning framework or as a mediating structure. The control of technology then becomes a political examination of power. This raises the question of how one then understands the consequences of technology as political power. Further, what knowledge is required to assess that question? Is the assessment on how intent and purpose functions according to context? Alternatively, does it require examining the given meanings of a technological artifact – or the contestation of its meaning? If this last approach is taken – an examination of contestation and interpretation of technological artifacts – then the knowledge required for assessment becomes a cultural interaction, the construction of interest groups and perception. Knowledge of the technological use in the habitus *and* in the structures that produce the habitus is then required. This approach acknowledge the weave of complexity of both the technical choice of adoption, the desire to use a technological device to network to enable actions, the contestation involved at multiple levels and the context in which that that technology is being utilized.

This approach is similar to the contemporary 'debate/s about Technology' and control which have to a degree decreased as current writers engage with *social activities and specific technologies* (Rappert 1999; Fukuyama 2002; Heath and Luff 2000; Fischer 1992; Horst and Miller 2006; Harper 2003). In this set of literature, control, determinism and effects (autonomy; human control and values) are instead related to a design and adoption process which is socially contingent, socially unequal, but there are instances where mass participation and involvement has been incorporated (either through participation or through market demands) into the design process. Extrapolating from the studies that Lewis presents, the case for design, social influence and differing environments certainly holds (see Lewis 2004). Thus, the current important markers when discussing technology and control are the socially contingent, the environment (space and time) and how participation has an influence. It is this last feature that the thesis will examine – how participation by network advocacy can alter debate.

Current contestation of technological control is based upon specific technologies networks (ICT, supply chain networks, and biotechnology) Related to the internet itself and the contestation produced by that information ecosystem itself is a politics of control, politics of participation and a politics of access to that specific technology design. In regard to advocacy, this politics of control (who control and what do they control) is to ensure that the architecture that allows participation (the open standard

protocols) are safeguarded. Following from this position, the technology and control the advocacy groups mobilize around allows the internet to be used to *any* purpose.

In relation to software (which acts in a similar manner to law, see Lessig 2004), debates regarding the systematic controlling, and inhibiting nature of software: software controls the system, the systems control what actions are possible, it in effect creating a bounded architecture in which possibility operates. The word 'Operating System' (OS) reveals everything in this case. Software operates a system. It becomes the faceless controller to those that are distanced from the system authority.

The rise of the PC attempted to break the systematic centralized control of mainframes and terminals (Pfarffenberg 1988). Pfarffenberg argues that this gave freedom to the user (1988). However, with this freedom of individual systems, power moved from hardware to software, as software became the differentiation between mass produced and mass assembled hardware. As software became increasingly complex and as more tasks migrated to the PC system many people did not have the skill or the time to create their own software. In this context, software became the symbol of the potential for personal computing freedom, yet at the same time as software became the support for technological devices, the PC became instrumentally dependent upon it. Complexity and dependency created a situation where most individuals were locked into the software vendor corporations' view of software. In these conditions software also became the symbol of centralized, external, faceless, authority that had embedded itself through technology into the everyday lives and experiences of people (Pfarffenberg 1988). Subsequently many saw the social goal of software has essentially conservative in that it sought to preserve and even enhance dependence, even while pretending to create an illusion of personal freedom (Pfarffenberg 1988).

That software was viewed in this manner illustrates that the primary social goals of freedom initially promised by software were not achieved and that it in turn created a dependence on a vendor. As soon as an individual decides to buy vendor software, they hardly ever have the time, skills and incentive to create their own software. The use of vendor software, from the user's side, is initially founded on convenience, which then evolves to reliance, and then to dependence. The key point is that in dependence, software becomes an agent of domination, of authority, and constrains possible actions.

At this point we have to make the distinction between three types of software: closed vendor software (better known as propriety software); open vendor software (FLOSS); and user-generated software. In user-generated software, the user has the skills to develop software. These users can be contrasted to users that do not have the skills to develop software. These unskilled-users thus are reliant upon vendor software. The deskilled, or unskilled users of computers (in terms of developing code), in combination with the explosion of the personal computer locked many users into vendor dependency. In this context, software is a force of domination. Yet from another perceptive, software is of immense social value as it enables portions of the social imagination to become realized. Thus, the relation between software, skills, software complexity and capital requires investigation.

This relation can perhaps best be investigated by using the FLOSS movement as lens. This movement argues that it is not software that is a force of domination, but rather the dependence on closed software. Closed software forces static systems that are not able to meet and respond to the dynamic needs of the users. They lobby that open software (FLOSS) is therefore a better product, as access to the source code allows the system to be modified and tailored to the specific needs of the user. This position however does not seek to overthrow the value system as a whole. FLOSS still views vendor software and the relations of capital to product as appropriate relations. They do not challenge the conception of the network, only portions of the relations within the network.

2.3 INFORMATION AND COMMUNICATON TECHNOLOGY, INFORMATION SYSTEMS AND SOFTWARE

A change in technological form can be seen in the alignment of information collection during the second half of the 20th century. This led to an improvement in information collection and distribution, which has had a direct impact on the global restructuring of capitalism. While judgment of this process is mixed, this restructuring saw a general re-orientation towards more flexible organisation, and increased efficiency of information utilisation (for an overview, refer to ISSJ 2002) and resulted in innovative organised production that was also characterised by the flexibility of labour processes, labour markets, products and patterns of consumption. This process allowed for the emergence of a truly continuous global market in

addition to a shift from manufacturing to services, in which the primary global commodity exchanged was information. This transition was facilitated by and as a result of information and ICT.

This process led Castells to theorise a new mode of development, *Informationalism*, which is characterised by the action of knowledge upon knowledge itself as the main source of productivity (Castells 1996). Further, Castells claimed that information becomes a prime value in modern capitalist societies by using the example of their financial sectors (Castells 1996). Granstrand refers to this economic transformation as the emergence of intellectual capitalism. ICTs play a pivotal role in lowering the transaction costs associated with the exchange of information, enabling a more adequate privatisation of gains from production, and making possible the distribution of information on a commercial basis (Granstrand 2000).

Castells' claims about information however come some 40 years after the work of information economists such as McDonough in the 1950's and 1960's. Castells also fails to understand that information *has always* been a necessity in economic production and activity. A simple example is that supply and demand is based upon insight into market conditions and the location it serves. As information is necessary for economic advantage, 'systems' are needed to draw in the collection of relevant data and aid in its utilisation. This is related to debates regarding epistemology.

Information economics acknowledges that the data was *always* 'out there' in the interaction between humans, waiting to be recorded, collected and utilised more effectively. This model became the principle behind traditional economic models and transactions. This collection and utilisation, the information economists realized, could only be done better with the aid of more advanced technology. Implicit in this argument is that this level of information been available to previous generations in their economic systems, it would have also been utilised. Currently the increased level of information in economic transactions is due to the various forms of ICT. Therefore, ICT is not 'changing' traditional ideas about the market and capitalist economics, merely reinforcing the intention of them. This is not to say that ICT and software are not changing society. They are, but not in a manner that fundamentally changes the understanding of the human condition. The majority of these ICT electronic and digital devices rely on some form of software. Here, software constitutes the interface between these devices and people. In its prominent position and proximity to users, it can be seen as the embodiment of the challenges to political

values. This prime position is due to the prime importance of information and technology in contemporary modern society.

The massive spread in the use of ICT/IS has been described as a third revolution, following on from the earlier agricultural and industrial revolutions. In his book, The Third Wave, Toffler (1980) examines the forces for change within the world and of 'electronic cottages' (Toffler 1980). The ability of microelectronics to store and communicate vast amounts of information quickly and cheaply has already prompted significant changes in society (Negroponte 1995). However, predictions about the future impact of IT are speculative. The interesting question is how far society will be able to control the future impact. Contradictory predictions are made concerning effects on the individual. At one extreme, the introduction of automated systems and expert systems could be seen as having a deskilling effect and a resultant downgrading or dehumanisation of work due to automation and specific tasking. The ironic aspect is that these deskilled workers will be integral to sustaining the knowledge economy, as the knowledge economy is dependent upon knowledge as a commodity. The contrary view is that appropriate use of ICT/IS could enrich the jobs of individuals and that through access to information sources and processing methods not previously available, it could increase the independence and empowerment of the individual. At the organisational or business level, the office and production automation is already having considerable effects. The unmanned factory, mediated by robotics is largely already with us (Ebel 1989).

In a more pragmatic role, technology and software in the form of the personal computer (PC) and the Internet have become instruments of democratisation by increasing the access to information and thereby the decentralisation of politics. This has also led to increased transparency and accountability as more individuals have access to government information.

The nature of software challenges established assumptions of production and ownership (for a study on the role played by ICTs in codifying knowledge see Cowan 2001). Bits are endlessly reproducible at marginal costs that can traverse digital communication networks without regard to national borders (see Negroponte 1995). These are not subject to custom controls either. Taxation of information commodities is currently not possible – information is freely tradable. The effects on economic systems have yet to be fully quantified

Free distribution also gives rise to 'pirated' copies of information and software (see Bowrey 2002, Sundaram 2001). Examples of this include the music/ entertainment industry and software companies. This theft challenges traditional business models as IPR and copyright are under threat. The implications are not only economic but also political, as access to information is related to the accumulation of power and control. The ongoing discussions regarding regulation over access in the digital sphere indicates that a common policy for the digital realm (including ways to deal with software and its social implications) still has to be found. Thus power and control have even to settle within one specific structure or with one specific set of actors. Yet as Negroponte points out, if regulation is possible, it has to be done in a manner that will not negatively confine the positive aspects of digital networks (Negroponte 1995).

The impact of software is not limited to the working environment. The manner in which software is produced, distributed and utilised defines to a large degree how a society communicates and interacts. Nevertheless, software provides a mechanism that in some circumstances can limit and exclude access to information[11]. In summary, further research is required into the above-mentioned areas to understand the implications for society and states from technology and software.

Due to the communication revolution, information systems (IS) exist today in a vast range of areas from applications in the home environment through to corporate business systems, and complex real-time manufacturing and control systems. IS can be defined as the interaction between users, computers, and the tasks associated with all three. This occurs within an environment that may include the immediate workspace, the physical environment, the social environment, and the organisational environment. They have become a critical component of how humans organise their current societies. The use of IS has been made possible by an electronic revolution in the latter half of the 20thcentury and specifically by subsequent information and communication technology (ICT) developed from the electronics boom. ICT is the convergence of information technology (IT), telecommunications, and data networking technologies. Essentially, it is the use of communication networking to distribute digital information. This network extends past the node (for example a

[11] This however is not possible, only the skills to work around blocking software are a problem, as the ordinary user might not have them.

computer linked with a modem) and includes the code, the infrastructure and mark-up languages used to establish and maintain communication.

As ICT has become more widespread, so the costs involved have decreased to the point where using ICT and the internet is a common activity in many households in the developed world. This has allowed those who have access to ICT to obtain information in a very economical manner, but also in a manner that transcends space and time. Speculatively, the circulation of information that transcends 'national' public space will have a significant influence on identity politics and politics of affiliation.

IS and ICT have created an information commons in which information could be classified as a commodity. The above approach places its initial emphasis upon IT and then the ability to exchange that information. This thesis is going to place equal emphasis upon the communication (interaction) process in the exchange of information. This is premised upon human interaction, and that at any point during that interaction, various data, information or knowledge are exchanged. Thus, roads, ships, bridges, cable lines, or any constructed infrastructure that enables human interaction, in the form of data, information or knowledge exchange to be facilitated is going to be considered as ICT. The technology component is not considered in a contemporary manner but rather as any human designed tool (deliberately constructed) that aids (or has aided) in that information exchange.

2.4 NETWORK ENABLED COLLABORATION

There is little doubt that transnational networks have provided significant collective pressure on both the domestic and international political stage (See Keck and Sikkink 1998; Khagram et al 2002) and that by doing so they have blurred the boundaries of the state, transforming the practice of both the state and counter-advocacy (Keck and Sikkink 1998). This can be seen in the creative use of information to mobilise supporters and to develop political agendas in influencing the public. While networks may differ in respect of size, orientation and density (Keck and Sikkink 1998), they do tend to have a similar organisation pattern. Accepting that organisations are sets of "social relations deliberately created, with the explicit intention of continuously accomplishing some specific goal or purpose" (Stinchcombe 1965: 142), then we must recognise that networks are a method of organisation.

The network as a pattern of organisation for advocacy was first identified by Myers in 1994 (Myers 1994). His position of the network as a method of organisation attempted to bridge the gap between the resource mobilisation positions that attempted to explain the emergence of social movements, and that of new social movement theory that emphasised the social-psychological process and relation to resources. For Myers (1994), the network offered a variety of precise communication methods that could aid mobilisation methods. This process of mobilisation, of using the network could be analysed using specific cultural, situational or social-psychological tools. This thesis aims to build upon the work of researchers such as Myers and Waterman to examine the political ramifications of the social relations, activities conducted using the network advocacy, and network enabled collaboration. Both of these concepts are discussed below.

Network advocacy can be defined as a network of interactions and relationships that connect either formally, informally or non-formally in which a variety of individuals or sub-organisations share a distinctive collective identity and interact around issues they argue are of relevance to themselves or others in the civic sphere (see Diani 1999). A method to aid such activities is network-enabled cooperation. Here technology is considered as the feature with structures mobilisation, and actions, which in turn directly affects contestations, their outcomes and the political landscape. This will be discussed in further detail below.

Importantly there are two types of network advocacy collectives. The first utilises the Internet for social action, while the second contests the Internet itself. Essentially the distinction is between using structures as a tool or as contesting the structure itself. These dimensions involve the internal as well as external interactions between individuals, sub-organisations, branch organisations, national committees, states and so on (i.e. networks). These interactions can be fostered, or enhanced, or developed with the influence of ICT. Websites can be used to bond actors together (protest.net; animalconcerns.org)[12]. Distribution lists can spread messages quicker than traditional email (see autisici.org resist.ca; communitycolo.net). Online forums and blogs can be used as discussions for further action (see humanrightsblog.org;

[12] Regarding the Internet, not only does it offer the opportunity of making crucial information for campaigners easily accessible from websites, but also makes possible the independent existence of 'virtual' coordination networks.

ecosustainable.com/au/forum.htm)[13]. Telephones and cellular technology provide real-time communication links to coordinate activities (an example of this is seen in the use of text messaging to topple Estrada in 2001). The voluntary information exchange and service exchange between different hubs within the network allows information to be used to mobilise strategically (Keck and Sikkink 1998). The proliferation and use of ICT further reduces the cost of transnational advocacy (Keck and Sikkink 1998). These connections allow the movement to transcend national identities and develop in a global environment.

Other characteristics of network advocacy include its modular features. This allows networks to interlink with other networks, for organisations to pursue their own agendas, and collectivise accordingly. One aspect of this modularisation is what Keck and Sikkink called a 'common discourse' (Keck and Sikkink 1998: 8). This common discourse is vital for the network to be modular – it allows different organisations to collectivise with minimum friction.

Essentially, network enabled cooperation shows new forms of online social movements and advocacy. This has established new forms of organisation, collectivisation, and cohesion. This in turn creates differing organisations around authority, contesting authority, agreement and disagreement and tasking.

Advocacy networks have also taken a network enabled cooperation approach (as opposed to a static organizational structure) to mobilise around interests and issues. In these cases, collaboration is central to the success of the advocacy network. Network enabled cooperation has many different models, structures and mechanisms to differentiate various networks. It is due to the collaborative nature of the advocacy network – those that seek to connect with their user and support community that encourages collaboration within the network, and around issues, identities, and a brand. O'Reilly calls this the 'architecture of participation' (2004).

O'Reilly argues that for a network enabled cooperation advocacy network to be successful, it has to inherently have an architecture of participation thereby allowing interoperability and connection between different sections of the network. While one could apply this to identities, backgrounds and causes, it relates in this section it

[13] Web forums allow discussion groups between individuals far removed from one another but who are still interested in specific common issues, thus encouraging interaction and dynamic communication to be established.

relates to the common code that allows these networks to connect and communicate in the first instance. O'Reilly posits that ICT systems based upon protocols will create an architecture of participation (O'Reilly 2004). He continues by saying that the architecture of the internet further reinforces the framework and potential of network enabled cooperation by creating the ability to hyperlink various portions of the network together. This is worth noting with regard to advocacy networks. Conceivably there are three types of participation: one in which one is paid for participation; one where they volunteer in a collective spirit; and one where a P2P network is established and mobilisation is organised around issues and interest.

Therefore the organisation of participation is a crucial element for network advocacy as it establishes the framework for a user community. This framework, and the advocacy network itself, by allowing participation in the form of UGC, enhances the network and the range of issues on which solidarity can be generated. Yet it must be remembered that this network-enabled cooperation itself is based on open standards, and that in turn the open standards allow participation. In this way, open source software and the open standard architecture of the internet support that advocacy in that the network enabled cooperation allowed by that architecture becomes the space where new ideas are generated and are distributed in a network fashion.

2.5 THE MECHANISMS OF NETWORK ADVOCACY

The landscape of advocacy networks is primarily one of linkages, connections and decentralisation. Here advocacy networks, internet based social movements and internet community-based organisations are not centrally coordinated or traditionally 'campaign' orientated. Rather there is an emergence of large scale, even spontaneous, online collaborations that are not centrally or hierarchically organised. Members and networks instead converge around a single idea embodied in an issue. This convergence of members around a single issue presents an opportunity for the attachment of other ideas to occur. To use the example of FLOSS itself, even if the code is open and allows for modification, the APC have attached the term 'social justice' to this opportunity to modify code. Groups in South America view FLOSS as an ideology which breaks from the due cultural and economic hegemony of the West (Mansilla 2007).

Mobilisation and online awareness is essentially based upon the dissemination of content with the use of mediating structures. Mediating structures can be either the internet or network itself, code (as in the case of syndicated feeds) or it can be the organisation or individual through which that content is passed, and passed on. Interests, selection of material, filtering and gate-keeping are therefore some of the power-relations and mediations which are determined within these mediating structures. This dissemination of content is similar to how other users on the internet disseminate content. These are detailed below:

Syndication feeds;

Syndicated content is a result of information tagging. Information is 'tagged' to allow users to track and scan information from a variety of Web sites without downloading the entire page.

Websites;

Websites are critical elements in network advocacy as they provide a visible online habitus. They constitute an online presence and function both as a platform from which other software applications could be attached to enable better networking and advocacy. Websites are also symbolic of the values of the advocacy network. Websites can be considered part of the online infrastructure for a community in the online or virtual landscape. As a habitus, they create conditions for congregation of supporters, interested parties and values. As the symbolic front of organisation, the website provides the bedrock for mediated collective organisation online and projection of the values selected by the organisation. Websites are thus vital for symbolic capital and power.

Websites also are platforms for voice, and expression, and additionally allow supporters to connect online creates and allows for a landscape in which interaction can take place. With the ability to interact, surely the ability to collect and organise must also be a possibility? A collection of online users can therefore form a movement or a structured community. This would be a 'community of choice'. This merely reinforces the structural components of a social movement.

Emails;

Emails and their associated technologies are interactions that have allowed information to be transferred across space and time at a rate which is unprecedented in human history. This rate of information transfer has had significant impact upon the rate of which actions can be initiated, acted upon or responded to. They therefore are critical mechanism for the forms of advocacy mobilisation. Awareness activities, information distribution, stories and content of these newsletters are designed to reinforce and maintain the supporter's interest in the organisation's activities. Emailing is also used extensively in internal networking, as well as in mobilisation actions.

Content Management Systems;

FLOSS content management systems (CMS) can be used to co-ordinate online and offline campaigns. These CMS packages vary, but most have web management, email management and contact tools. Some CMS tools do not require specialized knowledge and make the task of upload and developing content simpler that straight web development from code.

Listsevers and Mailing Lists;

Easier than CMS are email lists, which are easy to maintain and can sent out emails rapidly. Theoretically they have a global reach and are cheap and easy to maintain. Free listservers also provide email list services for activists, and these are generally staffed by volunteers and funded by donations See interactivist.net, mutualaid.org, resist.ca. The Petition Site (www.thepetitionsite.com) and Petition Online (www.petitiononline.com) which offer free electronic petition hosting to any email address.

Blogs and Podcasts;

Emanating from websites and emails are web logs, which are more commonly known as blogs. They use stylistic convention which follow speech rather than written convention - short with elements of intertexuality, discursivity and commentary (see Doostdar 2004). The intertexual interaction between reader and writer allows texts to evolve, and take on multiple manifestation and meanings.

Blogs are successful due to accessibility, with several free low-cost blogging tools and services available online. They have become vital tools to connect and distribute

information. By 2007, 27% of internet users say they read blogs, while 12% of internet users have posted comments or other material on blogs (see pewinternet.org 2007).

Archives;

Archives constitute a political device used to reflect and enforce a projection of the organisation's values (Derrida 1996, Foucault 1972). Online archives are, as with any archive, a deliberate selection of material which is deemed suitable to the interests of the network advocacy. Thus the passive information distribution is used to entrench a certain agenda online. The same is true of all forms of active information distribution even in a decentralised networked organisation. While they might not be subject to corporate or governmental interests, they certainly have a bias of their own. Even interactive groups with few resources have agendas. This can be seen in the 'agenda setting' of discussion forums and the moderation thereof. Thus, these archives reflect entrenched interests and are deliberately made available online to promote those interests.

2.6 FUNCTIONS OF ADVOCACY

Internet Activism (and any activism for that matter) can be categorised according to function. These functions are:

- Representation;
- Information distribution and advocacy through media;
- Research;
- Outreach and solidarity;
- Lobbying;
- Fundraising;
- Communication;
- Finding and / or growing support and creating new working networks
- Militant action;
- Customisability;
- Planning.

While these functions are fairly obvious they do allow a baseline to be established regarding the general methods of activism. This baseline can then be consulted to determine the changes in organizational or mobilization patterns. Together, these features allow the Internet to be transformed into a tool for online advocacy. By enabling easy, low cost mobilisation, increased response rates, increased methods of recruiting activists, stronger relationships and stronger loyalty and an integrated approach to managing constituent relationships (Bhagat 2005) the activists can follow a common trail. Each is dealt will below.

Representation

Representation has a double meaning; that of representing a particular grouping and that of reflecting an image. In the case of advocacy, there are various organizations that seek to combine both elements. However for a variety of reasons, i civil society cannot claim to stand as the representatives of the people as a whole. Instead these organizations often tend to represent an image or idea. This image is framed as the organization being the representative of those that are denied agency – such as those people that suffer from the digital divide. In the online realm representation has taken on the meaning of presence: that of creating space and allowing for voices to be given to those who are marginalised. Countless websites, blogs, and listsevrs seek to create awareness and presence, distribute information (advocacy media), do and distribute research, create cultural production, do outreach, run solidarity campaigns, lobby, fundraise, communicate, grow support bases, carry out actions and so on. Representation online is often the first point of contact that supporters or interested parties will have with an organisation or the network. Hence representation is about creating an image that will attract potential supporters. Representation online also has pragmatic elements of displaying information about the organisation, its contact details, members, history and affiliations. Habitus serve as sites of representation online to project the values and interests of the organisation and to which interested parties can be directed.

Information Distribution and Advocacy through Media

Information distribution is critical to creating awareness of a particular cause, or to mobilise the network. Information is distributed through the mechanism described

above. Information posting of goals, missions, updates on activities, newsletters and reports are common. Information distribution can be either internally orientated, intra-network orientated or externally orientated. This allows alternative perspectives and alternative information streams are interlinked, for as Lindenschmidt writes:

> My computer runs Free software, with a highspeed Internet connection provided by Time Warner. I am listening to Amy Goodman's radio show, Democracy Now!, via streaming mp3 over the Internet. I am monitoring several alternative news websites, weblogs from people in Iraq, and emails from several listservs that provide first-hand accounts of the situation in Iraq and all over the world. In short, all of my information independent of corporate control, both incoming and outgoing, is mediated through my computer and the Internet. (Lindenschmidt 2004:1)

Making archives available also constitutes a form of passive information distribution, as the network advocacy make the informational material accessible to the general internet population. I acknowledge that no information can be passive as Habermas shows in his work on communicative action (1979). However 'passive information' is the term used in the literature in the informatics field to denote information that is not channelled or casted towards the recipient, but rather information that the recipient must search for.

Research

As research could be conceived as an activity which involves politics and could be used to influence the form of the political (see Appadurai 2000[2006]), it becomes both a mechanism of advocacy and a target for advocacy. In the former, research is conducted via the medium of the internet. Here the advocacy network gathers information about causes, target opponents, other actors, backgrounds, economic data, media, databases, and to distribute research. Further the internet allows advocacy to connect both with international donor agencies. This connection can enable a collaborative development of research within the network and with that of the international donor.

Archives of the organisation are also made available to the research community as a deliberate political act – as content determines further content – and there are hopes

that their material will favourably influence debates. Network advocacy can also be used to discredit research from other actors.

Outreach and Solidarity

The actions to give solidarity to other groups can be visibly seen through the use of banners, links and message boards. These create pleas of solidarity for a particular cause. Outreach is undertaken by finding the contact details of other online groups and emailing them and syndicating them. This tactic can supplement offline connections and programs.

Lobbying

Lobbying online becomes an electronic version of collective action which is aimed directly at influencing a political process and the outcome of that process. This electronic process is manifested in petitions and email campaigns. These particular messages are aimed at target actors which can be institutions, bureaucracy or elected officials. A feature of online lobbying is that is can be transnational; for instance network advocacy in South Africa can send online petitions to elected officials in Europe. Little prevents such actions

Fundraising

The internet is also used to both actively and passively seek money to support its operations. In the active sense, network organisations can obtain an income from membership, donations, and sale of support goods. This mechanism of advocacy is used to solicit this income. This income uses internet capital distribution channels created by banking and money transfer institutions.

Communication

The use of ICT mechanism to connect and communicate various sections of a network is a vital activity. Communication is critical to mobilisation efforts, information distribution, maintaining support, link into existing networks and creating new networks. Additionally communication is used to solicit funding. Communication activities are related to the politics of information flows (see Chapter One). If information flows are inhibited, then communication activities are inhibited.

Finding and / or growing support and creating new working networks

Network Support comes from exposure to issues that resonate with individuals. Exposure could come from media, social networks, 'advertisements' or chance. However, once conscious of the issues, social bonds, social networks and professional networks become avenues to explore support. Working networks are means for creating online and offline collaboration. This therefore extends the reach of existing struggle and enables the expansion of established movements, issues, and actions.

Militant Action

Militant action conducted by network advocacy groups can potentially include cracking or site alteration. This involves the illegal entry into target sites and the disruption of function. Alternatively, vandalism can be used to remove information as in the case of a Statistics SA employee who was found guilty of vandalising a Wikipedia entry of AIDS and South Africa (Finn 2007). Information modification is common. For instance Griffith racked IP address and information modification on Wikiepedia. His database had 34.4 million edits by 2.6 million organisations and individuals. The results showed that many changes to information regarding a company or organisation are made by individuals within that organisation (see Verkaik 2007). Examples of modification include the United States Central Intelligence Agency altering casualty graphs in Iraq, the Israeli government's attempts to delete entries regarding the West Bank wall. Governments and bureaucracies were not the only types of originations that modified information. For instance, dog breeder associations removed information on dog attacks while MySpace removed references to censorship. Additionally Amnesty International changed information which portrayed the organisation as being anti-America.

While this in itself while not being militant action, it does illustrate that information modification is common online. If one accepts that little differentiates information modification of one's own image online and the modification of another organization's image then these actions in general can be seen as a form of network advocacy to gain political ends.

Additional varieties of militant action include data theft and virtual sit-ins (see Wray 1998, Denning 2000).

Customisability

Customisability of organisations is a crucial component online, as advocacy is a 'service orientated industry'. Thus the mechanism of online advocacy is used to create flexible projects, actions and coalitions. Keck and Sikkink (1998) term this as networks of networks, others as meta-networks.

Planning

The uses of the mechanisms of advocacy allow planning within networks to occur on a global or transnational level. This global planning allows multiple perspectives to become integrated into planning and action, and thus can represent a greater diversity of experience regarding a particular issue. The added benefit of this global planning is that parallel and multiple actions can be carried out simultaneously in different locations.

In combination section 2.5 and section 2.6 explicitly show that the possible forms of advocacy are directly dependent upon the possibilities and capabilities of the infrastructure. This combination and interaction is therefore responsible to some extent as an internal factor for the content of advocacy. To be clear, this does not to deny that there are external forces which shape or influence the content of advocacy. The specific content of advocacy is the next section in this chapter.

2.7. THE CONTENT OF ADVOCACY AROUND FLOSS

One can argue that network advocacy, due to the nature of the Internet, both contests and creates discourses. While there are elements which focus on the production of code, the majority of the FLOSS orientated network advocacy are attempting to advocate for 'information or knowledge rights' which they argue are a natural extrapolation from human rights. The FLOSS orientated network advocacy cast their arguments in this way so as to come across as indisputable, logically sound and resting on rights that already have widespread acceptance. The position of information rights as an extension of human rights automatically casts anyone who opposes their actions and agenda as reactionary and an anti-democratic force. In short, one could argue that these network advocacy groups are attempting to create a discourse regarding the social justice of technological control and utilisation in a technologically mediated society.

Using an 'order of discourse' approach (Fairclough 1995 and Phillips and Jorgensen 2002) this section examines the information rights from the content of FLOSS orientated network advocacy. There are a large variety of themes in the advocacy when dealing with FLOSS. They are related to the context sketched in Chapter One. The nine main orders of discourse are:

- the possibility to modify source code;
- freedom to information and freedom of communication / to communicate;
- FLOSS as a better software development method;
- FLOSS as a mechanism to create access and close the digital divide;
- debates regarding content; the role of IPR;
- FLOSS's developmental potential;
- a culture of sharing and subsequent social innovation;
- as technological empowerment.

Each is discussed in turn.

Possibility to modify source code

The advocacy groups argue that by accessing the source code, users gain the potential ability to modify and customise the software to meet their specific needs. In this way, FLOSS can become simple and functional. Attached to the source code are issues regarding ownership of the particular software. Having the software's source code effectively gives exclusive and complete ownership of the software product.

Freedom to information and Freedom of communication / to communicate

The freedom of information is posited as a human right, especially in the context of the information economy powered by ICT. Activists argue that the prevention of accessing information is therefore a barrier to both potential economic activity, and a denial of human rights, or subsections of those rights such as language rights or women's rights. This is a strong feature in all three cases and is an underlying theme in the majority of their literature.

Better software development method

Proponents of FLOSS claim that the advantages of their development model over propriety models yield reduced development time and costs. They argue that the constant release and update of software, combined with the right to modify, redistribute, and contribute will reduce the effort required to develop software. As updates are made available, users who were working on the same problem will shift their development to new areas. This links to the concept of building upon the works of others. By using other developer's components, development time will be reduced. In cases where source code cannot be directly integrated, developers could still learn how other projects solved similar problems. FLOSS developers are often cited as reporting problems but also pinpoint the exact cause and, in some cases, supply the debugs. With this in mind, developers and users are said to gain better quality control. The maintenance costs of FLOSS are reduced, as the costs to maintain the software are spread across users and developers. Additionally, the modification and customisation reduces excessive maintenance. Finally, proponents argue that the model has access to programming expertise through the Internet and that research is covered by volunteer labour (see DiBona et el (eds), 1999; Kim 2003; Statskontoret 2003, Escher 2004, Tuma 2005, Dalle, et el; 2005, Tuomi 2005, Wheeler 2007).

The FLOSS development model has became possible in its current form only with the advent of the Internet, higher forms of ICT, and increased access to these systems by more individuals, and linkages between talented individuals by network enabled cooperation. It has produced a number of highly successful projects including GNU/Linux, Apache, Mozilla, and Open Office, while the popularity of the FLOSS model has already found a variety of applications outside the production of software and beyond the technology sector. Examples are Wikiepedia and Audkit.com. Even so, the success of a few major projects does not necessarily point to success in the development model. Researchers like Eunice (1998) and Lancashire (2001) have warned about the exaggerations of the promise of FLOSS projects. A primary concern is that much of this earlier work on FLOSS is based on a small number of high profile FLOSS projects and therefore is impossible to make robust arguments about the factors that led to their phenomenal success. Lancashire warns that 'even trivial differences in the general license under which code is released affect subsequent development decisions.' (Lancashire 2001) and these decisions might affect the ultimate success or failure of the project.

Creates access

The structure of the internet, access to that structure, and the structuring of access are important subjects in these activism networks. This is a critical component of the lobby in digital divide gaps – for instance if the structuring of the internet inhibits access for disadvantaged groups, then this lobby argues that there is a gate-keeping process that reinforces disadvantage (See DSF 2006), further widening the digital divide. One of the general lobbies is that internet connection costs should reduce substantially, or even be considered as a free service. In the near future this is unlikely to happen.

Access then for disadvantaged communities and individuals comes from strategies to establish Community Technology Centres (CTC) [14] [15] or public access points (PAPs). CTCs can be defined as generally non-profit (or subsidised), locally-based points that provide access to a variety of ICT. They can best be understood as an umbrella term that covers a variety of organisational frameworks (community, NGO, governmental). Although Davies et al points out that CTCs differ along three dimensions: their organisational type, their programmatic orientation, and their target population, the primary operational objective is developmental (Davies et al 2003)[16]. They can be considered as a sub-set of both Community Development Centers (CDCs) or Multi Purpose Community Centres (MPCC)[17], but which focus on technology as its agency of social change. CTCs could even operate inside of a CDC or MPCC. CTCs can therefore be considered as Information and Communication Technology Infrastructure (ICTI).

Open content

[14] CTCs have a variety of names and are often known as telecentres, universal service agencies, multi purpose community centres or public access points. For our purposes, the umbrella term CTC will be used.

[15] Community network and the community content models require the availability of computers. Computers require primary infrastructure.

[16] Being developmentally orientated also draws in debates regarding maintaining and creating development and progress and the values and measurements they are made upon. This statement is used in a definitional and universal framework.

[17] Davies et al points out that often, CTC are "…part of a multi-service agency which means they are part of organisations or institutions such as a public library, [or] a YWCA…[which] offer[s] a variety of services and programs to the community (2003: 6).

Related to open access, is open content. Information accessible to people on the Internet is called content. It derives from the primary term for code in mark-up languages that reflects information. As such the code of the mark-up language file is referred to as its content. This code carries with it the set of instructions and scripts that are activated when the file is activated or read. In the reading of the file, your computer makes a copy in the RAM and then undertakes the executable instructions for that file. Let us imagine that we are opening up a normal hypertext file. Upon executing the file's instructions via an Internet navigator program (a program which read and executes these certain types of files), a set of information is displayed on your screen. What you are viewing is the visual contents of that mark-up language file. In many cases, this visible portion of the file has some information (either expressed as pictures, movies, text, sound, graphs etc) which is intended to convey meaning by ideas, motives or emotions.

Content can be broadly classified along two dimensions: information versus communications; and active versus passive. There are three forms of content:

1. The original content (file) located either on a server, or at a hub cannot be modified, it can only be viewed. This is known as passive content.
2. Content in its original form can be modified by an external agent. This is known as active content.
3. Dynamic content where content is modified according to preference. This is still passive content, as the user cannot change the code in the files, merely what is visible on the screen to the user.

In the FLOSS paradigm, this content, as code, should be open and accessible to those who wish to modify or distribute it. This derivative concept is known as open content. Its position is that as information is free or open to modification, greater information and knowledge can be built, creating a true environment where everyone can contribute. Thus information, being closed to outside parties does little to improve species development. Here content must be open to ensure that information flows and information ownership is kept in the public domain. By ensuring the public domain of information there is no economic, social, cultural or political disadvantage to any particular group.

In many instances this content creation has taken on the view that those who have been politically, economically and socially marginalized require special attention in

the creation of content, because their agency has been diminished. Thus special interventions are required to aid their agency, and one of these aids is the creation of their content.

The information versus communication dimension focuses on the Internet's ability to deliver information and / or facilitate communication. Information can be accessed in the form of databases, websites, and documents - whereas communication focuses on forums, listsevrs and petition sites.

The active versus passive dimension focuses on the role that the user plays in creating or accessing content. Passive models are static, as in the user accesses information. This is a 'one-to-many' approach. Active models allow the user to modify or create the information structure that is in flux (but realistically within limits). This can be described as a P2P or 'many-to-many' approach.

Community content in essence adheres to the following principles:

- Information is more widely available;
- Information can be customised by the user;
- Information flows from 'many-to-many';
- Information allows for interaction among users;
- Information enables users to become producers of information.

Potential barriers to community content can be:

- a lack of local information;
- literacy barriers;
- language barriers;

- a lack of cultural diversity.

Intellectual Property Rights

Activism surrounding open source and open content is related to intellectual property rights because the enforcement of ownership inhibits particular information and knowledge from circulating in the public domain. The APC has a large section dedicated to advocacy in this arena, arguing that IPR reflects the attitudes of existing hegemonic power structures, elites and interests. Thus, they argue that only by having information in the public domain can social justice be obtained.

Developmental potential and technological empowerment

Another dimension to the political significance of FLOSS is the option of technological empowerment that it offers developing countries or those that suffer in the digital divide. FLOSS software and its development model are highly attractive to LDCs who struggle to build up their ICT infrastructure. FLOSS offers an ideal opportunity to obtain high value software at low costs and build an IT infrastructure while respecting intellectual property rights. Additionally, FLOSS is promoted by a number of development organisations (apc.org, UNDP, IICD, FOSSFA[fossfa.net]). Here the cost, prevention of vendor lock-in, open standards and the high adaptability, make it possible to produce a localised version of the software for localised areas.

Culture of sharing and participation

Proponents of FLOSS argue that its software development model represents a technological as well as a social innovation. On the technology side, the FLOSS-movement has created a number of software products. Secondly, they also managed to technically facilitate the large-scale cooperation of people spread over the whole world. However, social innovation is demonstrated in people collaborating to produce a product, licence that product and then distribute that product together with its source code.

On the social side, and to emerge from the hacker ethic (see Levy 1984, Hannemyr 1999) is a culture of sharing. This sharing to a degree assists in ensuring that there is long-term accessibility to FLOSS code by creating multiple copies and sources. Further, as long as sufficient interest and skills exist from the development community, the life of the open source product will continue, thus proponents argue

that there will be an extended support that will extend the software lifecycle. Furthermore, since the code is publicly available, the user is not entirely dependent on one organisation to maintain and support the software. Hence, the users will always have the choice to provide in-house maintenance and support to continue the product's life indefinitely.

Proponents of the development model argue that keeping money out of the system, or at least not as one of the primary motivators, FLOSS enables people from all phases of life to participate, without the need of large amounts of funds. This does not rule out that people are active FLOSS developers even when they enter the working age, but what is unique is that money is not the central issue. As there are no initial financial investments, participants are free to enter and leave at a very low transaction cost. Furthermore, it helps to develop the IT skills of local people and enables them to participate in global software development.

2.8 CONCLUSION

This chapter has argued that the primary site of online advocacy is the habitus, as it provides the base from which the various mechanism and functions can operate. As the habitus is a structural device, both theoretically and pragmatically as it is based on structured code and infrastructure, the various mechanisms, functions and content of advocacy are heavily internally structured. Due to this structured nature it is important to examine how this structure engages external actors both within a network and outside the network. Using the above framework of mechanisms, functions and content in an external and internal context, chapter three will examine how FLOSS principles, practices and orientated organisations are impacting upon the political landscape.

CHAPTER THREE
CASE STUDIES

3.1 INTRODUCTION

It is a truism that digital communication has done much to change the everyday experiences of human beings thereby introducing much social change not only into the structures of society, but into everyday life. Some of these changes are fundamental and have altered the very foundation of meanings, experiences and structures – in effect altering what is contested, and how it is contested as suggested in Gidden's 'Life Politics' as was argued in the previous chapter. Certainly one can track these changes using the internet, cellular phones, wireless, electronic storage mediums and so forth. This chapter proposes that the singularity of the digital communication infrastructure, and the use of that infrastructure, functions as a disembedding mechanism for peoples' and organizations' relations

To track these changes, this chapter examines three cases studies – the APC, Womens'Net and Translate.org – to explore how their advocacy is conducted by network mechanisms. In this sense, the chapter draws upon concepts and mechanisms detailed in the previous chapters.

3.2 CASE STUDIES

The three case studies are detailed below in relation to the type of activities they conduct, how those activities are organised, and what the expectations of those actions are. Each case study has been selected to illustrate a particular aspect of transnational networking and how the open standards of the internet facilitate such networking. All three case studies are orientated towards FLOSS advocacy and FLOSS principles. This aspect is important as these advocacy networks are directly creating an electronic infrastructure to facilitate their advocacy. Hence these organizations are important contributors to the link between infrastructure and the limits that infrastructure imposes on advocacy. The argument in this chapter is to bring this link to the fore, and to lay the foundation for chapter four to argue that open standards are the prime determinant in the possibilities for advocacy networking.

The APC demonstrates transnational networking and its implications. Women'sNet shows how partnerships between various organizations emerge and are facilitated by Women'sNet technological expertise. Finally Translate.org.za shows how a non-professional volunteer organizational model has implications for how we conceive of support bases and organizational boundaries.

3.2.1 THE ASSOCIATION FOR PROGRESSIVE COMMUNICATIONS

The Association for Progressive Communications (APC) is a transnational macro umbrella network association that represents and coordinates the interests of more than 20 regional communications orientated civil society organisations. It is a formal structure with a small and professional staff, formal membership criteria and subscription for NGOs. The subscription is nominal and is used to solidify formal membership. The association is dynamic with regard to aims, directives and projects. For instance the organisation is a space for collecting voices in ICT civil society, yet it also has several project components. Simultaneously, they lobby national and international governance collectives to influence policies and practices.

The APC roots can be traced to 1982 with the emergence of several non-profit computer networks. However, the APC itself was established in 1990 (APC 1998). The association has a 'deep commitment to making new communication techniques available to movements working for social change.' (APC 1998). Its purpose is primarily to share information and establish inter-operability between members. It promotes the development of non-commercial online space and lobbies on various digital divide concerns in specific spaces. This position is illustrated by it slogan which declares 'Internet and ICT for Social Justice and Development' (APC 2008a) (see Figure 7)

Figure 7: The APC Slogan

The APCs agenda revolves around attempting to find, establish and support methods to secure and enhance the realm of ICT for public use. This includes cellular

phones, computer skills and information processing, and distribution infrastructure. Thus it advocates for free information exchange and information rights. Their position on 'information' is that access to information is a human right. Conversely, denial of information either through circumstances, a lack of infrastructure, political or economic neglect, denies a person's potential. Thus it is an injustice and would negatively influence these individual's life politics. As Jennifer Radloff, the co-ordinator of the APC's Women's Networking Support Programme argues, ICT

> …offer[s] vast, new and unprecedented opportunities for human development and empowerment, in areas ranging from education and environment to health care and business. But they are also among the key contributing factors to social and economic disparities between different groups in society (Radloff 2005; 85).

Consequently, the APC endorses FLOSS technology for three reasons. The first is that open standards implicit in a FLOSS position would ensure the 'publicness' of the internet and thus a common understanding of the requirements for access to that public. As Esterhuysen (2006) proclaims, 'APC's approach to open access is people-oriented. We believe that access to information, content and tools is possible for all people.' As FLOSS gives users the opportunity to modify programs, it functions as a form of empowerment through technology. Thus the APC views FLOSS as an opportunity to become active agents in technological systems. Thirdly, the licensing and (often reduced) cost factor allows organisations such as the APC to increase the penetration of technology. This links back to creating opportunities for control and having established standards for access. Control in this context refers to the creation or harnessing of a device as opposed to the passive consumption of conventional technology. The APC therefore sees FLOSS technology as having significant developmental potentials for neglected and marginalised peoples. The focus from the APC is to use FLOSS as a bridge in the digital divide.

The APC encourages and assists members to undertake the above agenda. This is done by training, capacity building and facilitating various workshops. This assistance is designed to enable member organizations to become involved in global and regional policy debates. For instance the association argues against elements of the New Partnership for Africa's Development (NEPAD) as it holds the position that government delivery is often delayed and thus denies individuals and communities

opportunities that they would have otherwise have had (Esterhuysen 2006) The APC also serves as a platform to voice concerns raised by members.

From this macro position, the association is in a position to link what would have previously been parallel localized contestation and combine them to form a lens that views these actions as a global contestation that has manifested in local settings. In this way, the APC has managed to shift focus away from these localised debates, and frame issues in a global setting. While perhaps this has had the effect of giving the appearance of dismissing the particular dynamics of each of these various local contests, in no way do the local contests cease to exist. Therefore, seemingly dismissing local struggles due to collectivising the debates is often to position these contests on a global stage, but also to enhance information sharing within the association, interested parties and to the media and public at large. This was most evident in the role of the APC personnel in the debates at the World Summit on the Information Society and in the way that summit outputs were crafted to present a universal relevance and application (see APC 2006). As Natasha Primo, the Chair of the APC, summarisers, 'in this holistic approach, APC has played a key role in influencing the debates by not separating the issues' (2006: 12).

Recent work by the APC has seen it focus on 'network building' (Esterhuysen 2006). Network building, argues Anriett Esterhuysen, the APC executive director, entails

> [r]eaching out beyond our immediate network, we continued to focus on the importance of affordable access to information and communications infrastructure. Within APC we worked on strengthening our network by holding regional member meetings, conducting peer exchanges, and building more robust communications, management and monitoring systems. (Esterhuysen 2006)

Following the World Summit on the Information Society in 2005, APCs advocacy has focused on international infrastructure extension and consolidation. This is primarily due to a position held by the APC that 'few international ICT initiatives address the infrastructure gap systematically' (Esterhuysen 2006). The APC argues that public-private-partnerships are the best method to extend ICT infrastructure. This position illustrates that the APC is not an organisation that opposes capitalism, or

aims to dislodge it, but is instead focused on the best method for improving the outcomes for increasing ICT access to uplift and empower individual's life politics.

To accomplish this agenda a variety of methods are used for action. To represent itself online, the association has a website habitus to represent both the values and interests of the organisation. The habitus provide a platform from which campaigns can be launched, information placed online and to which supporters can be directed. The values of the association are clearly marked throughout the site. For example the homepage clearly indicates the website's interests, agenda and issues: 'Internet and ICTs for Social Justice and Development' (APC 2008a) (see Figure 8).

Figure 8: APC home page – note the option in choice of language (APC 2008a)

The apc.org habitus is extensive and covers a wide range of activities and countries. These countries and activities are covered from an 'information rights' perspective – in that only in the openness of information can elementary steps be taken to achieve global social parity for all individuals (see the political agenda visibly portrayed in Figure 9).

Figure 9: The iconographic portrayal of APC's political agenda of parity for all people

To achieve this aim, the habitus is a platform and portal for information collection, information distribution, awareness campaigns and capacity building. Projects of the apc.org include an 'Internet Rights Charter' and an 'ICT policy monitor' (see Figure 10). The habitus also uses the website to communicate its actions to members. An example is the submission from the APC to the UN Internet Governance Forum.

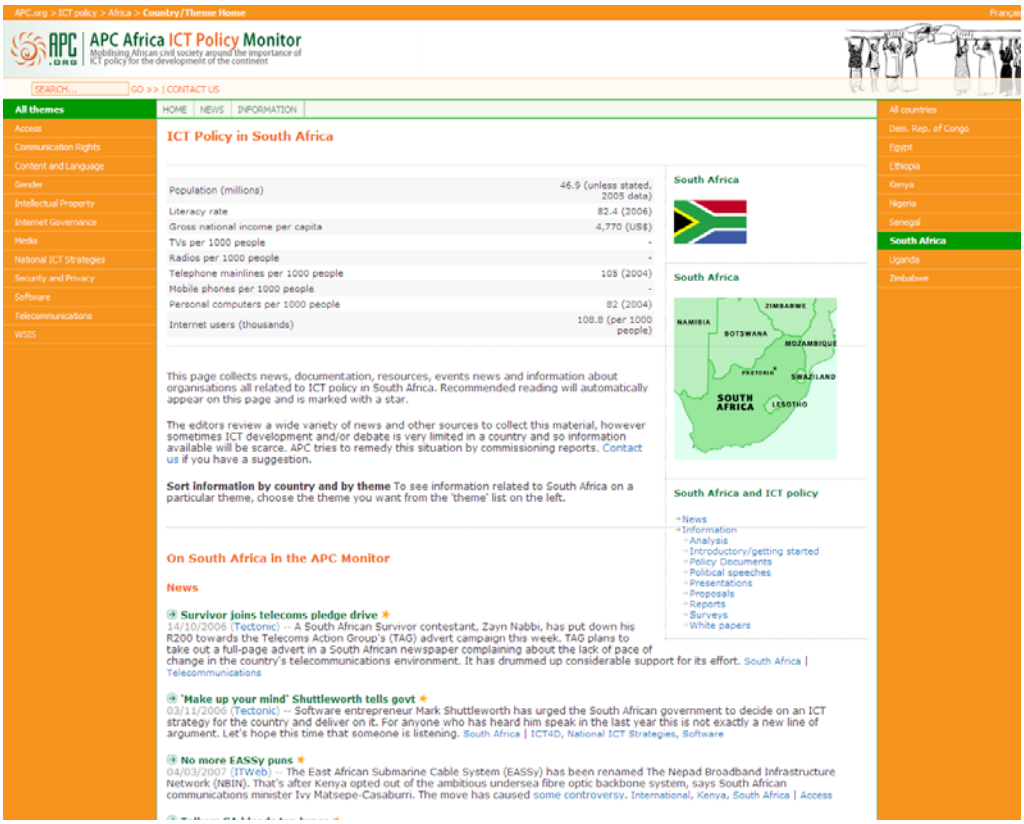


Figure 10: APC's South African ICT Policy monitor (cropped)

To assist in creating this representation, the website is updated using a FLOSS CMS called actionapps. On the habitus there is a link to the actionapps website from which this software can be downloaded (see actionapps.org). Additionally the apc.org provides other links and downloadable toolkits to assist other organisations and networks in their projects. Through providing these links, the arc.org is assisting to grow other civil society organizations. Thereby the APC is dedicated to the notion that equity of information access and lead to an improvement of social justice. Due to the CMS, the habitus is in constant flux with regular updates and new content. Fresh information ensures that users and supporters are encouraged to return to the habitus

regularly and those users and supporters from different locations are kept in touch with other campaigns. The desire for fresh content to a degree is a pressure to ensure that the organisation is constantly undertaking and conducting activities. This is not suggesting that the sole reason for the advocacy is to create content for the habitus, it is saying that it is one of many forces that reinforce actions and advocacy. Additionally the habitus was used to promote a passive income stream, as details for donations are present on the website.

As apc.org functions as an information distribution node for users, supporters and members, the website is critical in undertaking this activity. The habitus distributes information via newsletters, online publications and news sections on the online habitus. The news sections carried on the site revolves around topics. Also, the news section provides information about causes, mobilizations, and the establishment of new groups.

Distribution of information is also conducted by subscription via the habitus to newsletters. This subscription service sees automatic distribution of newsletters and media flashes and users and supporters become recipients of information distribution. Users, supporters and members can also search for specific information on the habitus. This can be accomplished by either searching the various blogs that the APC carries, or by searching the archives of the habitus. These blogs cover the area of 'information rights'. The blogs are labelled, for categorization purposes and to direct the users to similar articles. In effect, the links within blogs are used to carry and illustrate one stream of debate. Titles of blogs, in keeping with journalistic and speech patterns, allow the user or supporter to quickly identify if the blog is relevant to their particular mode of enquiry and position. Titles include 'Mobile phones and Voter Education', 'Access workshop considered how to mitigate costs and resolve connectivity challenges' and 'Access and connectivity for remote rural panel: Basic infrastructure needed' (see Amollo 2007, Loverock 2007, Brown 2007, Garton 2007). Topics with labels such as 'ICT for development', 'Internet Governance' and 'Access' are reflective of the 'information rights' organisational lens (see Amollo 2007, Loverock 2007, Brown 2007, Garton 2007). These blogs reflect global or alternative perspectives – South Africa, Brazil, Uruguay and Kenya are a few examples of offered perspectives.

Passive information distribution includes hyperlinks to other distributing agents, informational sites, or similar networks. Communication, as a form of advocacy, was

used by the apc.org to compile research, distribute information, and engage with supporters and affiliate members. Communication in the apc.org was primarily concerned with keeping information flows open for those for choose to participate.

This links in with the desire of the APC during recent years to grow the association. In this way the APC attempted to grow support and increase its influence. During 2007, the APC increased its membership by three organizations. Additionally the APC attempted to encourage the growth of new civil society networks. It did this by the distribution of localised FLOSS software hoping that its users would create networks, or via training and network support of existing or emerging organisations. Through these actions, the association attempted to encourage a culture of participation and sharing goals. This action was reinforced by outreach projects, programs and solidarity campaigns.

The APC had five major programmes in 2006 - Communications and Information Policy Programme, Strategic Use and Capacity-Building Program, Women's Networking Support Programme, Network Development and Participation, Communications and Media (see APC 2006). These programs each had several project components which were large in their own right, such as the Capacity Building for Community Wireless Connectivity in Africa project (see www.apc.org/wireless 2008) which was one of five projects in the Strategic Use and Capacity-Building Programme. These projects and programs all reflected and were approached through the lens of the organisation. Further, many of the projects were conducted by membership organisations such as womensnet.org.za, and the apc.org, as a network organisation represents the efforts of network activists such as womensnet.org.za, however, the apc.org do reflect these projects from their interest lens. FLOSS ICT was used to facilitate and project manage the above actions.

Lobbying by the association was targeted at existing established authorities – states, international organizations, corporate bodies and so on. This lobbying primarily consisted of letters inviting change. For example, the apc.org intensively lobbied the UN to adopt a 'bill of rights for the Internet'. Through this lobbying, and policy advocacy, the APC attempted to reduce the cost of access. Further, they have partnered with ItrainOnline and several organizations (including womensnet.org) to build internet advocacy capacity. These training materials are orientated to NGOs (APC 2008b) and contain material of

> trainers, women-focussed resources, links to interactive spaces, a glossary of terms and materials for learners and trainers on topics ranging from Audio Online to Strategic Use of the Internet. (APC 2008b)

Primarily the material is linked, and users follow the hyperlinks. Here, the apc.org functions as a portal showing selected content located on other sites. It links back to passive information channelling.

The APC case study illustrates two main points: 1) that flexible transnational networks exist, and that this network is primarily facilitated by internet interaction and coordination; 2) due to their transnational character they frame their issues in universal terms. Due to the universal positioning it becomes strategically viable to position their advocacy as extrapolatory from consolidated human rights. In this way, the various network components will be able to 'localize' or tailor the human rights discourse to the local environment and the particular issues that the component organizations confront.

3.2.2 WOMEN'SNET

Women'sNet is a mid-sized NGO based in Johannesburg, South Africa. It was established primarily to fill a gap in the South African women's advocacy sector relating to women and ICT. The NGO functions in a number of ways, however one of its most important functions is to provide networking support and training to other women-orientated NGOs. By doing so, Women'sNet aims to enhance this advocacy sector social impact. It also has various strategies for conducting advocacy both on gender relations in South Africa and on the use of ICT. As mentioned in Chapter One, Women'sNet is a member of the APC, and when established in 1999, was previously a unit of sangonet.org.za. As of 2002/2003 it has been an independent organisation.

Figure 11: The homepage of womensnet.org.za

The organisation admits that technology in general and FLOSS technology in particular are merely devices to complement their broader goals of empowering women through technologically aiding other women-orientated NGOs because they provide technological support to enhance mobilisation (see WN 2008a 2008). While political concerns were a factor in the selection of FLOSS mechanisms, initially cost was also a factor. Women'sNet's focus is on 'empowering Southern African women to use ICT'. The reduction of cost is a significant choice which allows more resources to be channelled into projects and programs to empower women (OSA 2008). For this reason womensnet.org.za can be said to have chosen a technological orientation as this area was not adequately covered by other NGOs. Open Source Africa characterised the organisation as:

> fund-rais[ing] for specific activities, and implement[ing] training[…]. Training projects tend to focus on ICT decision-making, information management and raising awareness around the political implications of these decisions (OSA 2008).

When interviewed by Open Source Africa, Sally Shackleton, then Women'sNet Information Co-ordinator and Trainer, characterised the organisation as

> giv[ing] advice to women NGOs on managing information and figuring out technical solutions that suit their context.[…] Being a South African-based NGO, we need to look at specific interventions that suit the African context. There's a need for more development of open source software that suits particular circumstances […] NGOs can use the applications but they don't know how to change code. They don't have that knowledge. Techies can be expensive, so we need something like a 'free techie' service, some sort of volunteer service, some 'techie happiness' going around. (OSA 2008)

Evident above is the situational and context dependency of the organisation. The selection of the network mechanisms, FLOSS or otherwise, is strictly dependent upon the specific situation and the greater context of advocacy for women's rights and empowerment of those rights. Mechanisms to achieve those goals are secondary to those goals, and thus dependent upon the situation and context.

Due to this position, Women'sNet is clearly orientated towards 'digital divide' politics, in that it believes women's opportunities are limited by the divide. Therefore, the organisation is not clearly advocating FLOSS principles (like the ability to modify source code or a better software development model) per se, but a more general discourse of attempting to use available technology for women's empowerment and advocacy. Their FLOSS orientation emerges from FLOSS being a mechanism to create access and attempt to bridge the digital divide. This allows 'women…to be empowered to make informed decisions around software and platforms' (OSA 2008). This is not to say that there is no concern by the organisation regarding FLOSS issues like those mentioned above or more general information issues such as information advocacy and concern over how intellectual property rights affect development, but rather that their focus is the gender component of the digital divide – the gender gap to provide a term.

Due to its particular technical capacity, which is lacking in other organizations in the South African gender advocacy sector, Women'sNet is involved in multiple projects often with a variety of partnering organisations. Within these projects and mobilisations, Women'sNet often provides technical support in keeping with its objectives. Women'sNet was established to address the digital divide and provide support, access and training for other gender NGOs thereby attempting to lessen the impact on the digital divide on the effectiveness of various gender NGOs and their activities. Project involvement and activities the include 16 Days of Activism on

Violence Against Women 2007, National Action Plan to End Violence Against Women and Children, Digital Stories, National Strategic Plan on HIV – Women's Sector Consultation. Projects often consist of temporary coalitions with other organizations whose interests overlap with that of Women'sNet. The advocacy at this level then is in flux, and while there is familiarity between the various organizations that comprise the various coalitions, these organizations function in a modular, networked manner. In organisational studies this is know as granularity (see Kellaway 2006). As Kellaway explains:

> Granularity refers to the size of the components – the smaller the parts the greater the granularity, and therefore the greater the flexibility of the whole (Kellaway 2006: 122)

In the case of Women'sNet, granularity and coalitions for campaigns allow the organization the ability to focus its energy specifically on its interests. Importantly this model for mobilization allows each organization within the temporary a degree of autonomy and selectivity in mobilisation. Thus during mobilisations, structures, networks and partners depend upon the situation encountered and the preferred form of activism.

For these actions a variety of ICT mechanisms are utilised. Online representation is achieved through the use of a website habitus. It functions in a very similar manner to the APC's online habitus which has been described above. On the habitus, there are a number of visible links to either coalition / network partners with similar interests (see for instance Take Back the Tech 2008), websites established with network partners or subsidiary website identities (see She-bytes 2008, Girl'sNet 2008, OneinNine 2008, and Gender Stats 2008). Womensnet.org.za also visibly displays its 'services' and 'issues' with which it has programs or interest. These interests include gender, violence against women, and ICT (WN 2008c, WN 2008d, WN 2008e, and WN 2008f). Additionally the homepage has a 'Directory of Organizations' section which has the contact details of a number of NGO / research organisations whose interests overlap with womensnet.org.za (WN 2008a Contact Trust 2008, CSVR 2008, CSVR 2006). Womensnet.org.za also has an archive section on its website which presents selected information to user traffic. These archives are extensive and

include material that dates back to its establishment in 1998. Contact details are also present on the homepage.

The symbolic values that womensnet.org.za projects through it website are the universal application of human rights paradigm (paralleled with a human rights discourse) and the use of technology to aid in achieving this goal. To create this habitus, Women'sNet uses actionsapps (see actionapps.org), a FLOSS CMS. There are links from the habitus to sites which provide downloads of this software, similar software and various toolkits to assist users, supporters and other organisations.

The habitus with its various associated software technologies is considered a vital component of Women'sNet's information distribution strategy as, illustrated by Lindenschmidt's (2004) quote in section 2.6, it bypasses corporate news filtering. Information is distributed through newsletters, a news section and some online publications. For Women'sNet, information and content is also distributed via media files. Womensnet.org.za, in their (s)he-bits section, has podcasts of community empowerment audio files. These downloadable audio files were developed by womensnet.org.za with rural women to create awareness and provide information sharing about local gender issues and conflicts to promote more equal gender relations. Most have been aired on community radio stations. Additionally the habitus acts as a distributing agent (via hyperlink, or forwarding of content) of others advocacy sites and networks- although this information that Women'sNet distributes reflect their interests.

Interested persons can subscribe to electronic circulars distributed by Women'sNet. These circulars are mostly awareness orientated. Electronic mail is also important for lobbying purposes. For example, womensnet.org.za use emailing and a database combination created by ThePetitionSite.com to establish an email petition to 'Stop Gender Violence and AIDS Helplines a Free Call from Cellphones!' This action formed part of Women'sNet's contribution to '16 Days of Activism for No Violence against Women and Children' 2007 mobilisation[18].

[18] This mobilization is of a networked coalition of South African Government, activists, communities, NGOs, research organizations, academics, media and some corporations to create awareness and a critical mass for social change.

Passive information distribution was also used to create content. For instance women'snet.org.za's girl'snet section welcomes targeted users with the following message:

> The Girls'Net website creates a space for and by girls where they can get information on relevant topics, air their views on social issues, interact with other girls and express themselves creatively. It is a place where they can exchange thoughts and ideas on just about anything! Content on this site is written, edited and/or sourced by Girls'Net club members, with the occasional assistance from club mentors and the Project Coordinator (WN 2008b).

The creation of content, both for and by women and girls is in line with the attempt by Women'sNet to make the internet a relevant, attractive and meaningful space for women. This is because there is a space to share experiences and voice opinions through blogging, and to feel part of a community through interaction. In a sense ICT is used to construct a space in which a sense of belonging can be fostered. The website habitus, blogs, the CMS and various downloadable media make this possible. This relates back to the effects of Women'sNet to address the gender gap in the digital divide. Content creation and its subsequent distribution also relates to the research that Women'sNet conducted. Through this distribution, the research takes the form of advocacy as it reinforces the purpose and need of the organisation.

These above actions relate to actions which are all directly or indirectly related to communication and access. As mentioned above the organisation was available to *facilitate* ICT support for other NGO organizations through providing training and providing FLOSS resources. This however was not limited to NGOs. Through the use of onsite facilities, Womensnet.org.za fosters the transfer of computer skills and knowledge (WN 2008g, Site Observation).

The Women'sNet case study demonstrates how a component of a transnational network (the APC in this case) localizes a human rights discourse, and shows the variety of programmes are moulded to local environmental circumstances. Additionally Women'sNet displays how granular cooperation between different transnational networks or various local actors is organized via electronic networking. This case then demonstrates how network organizations work laterally, vertically, and across space with a variety of different forms of organizations, movements, civil society actors, and governments.

3.2.3 TRANSLATE.ORG.ZA

Translate.org.za was formally established in 2002. The organization uses volunteers and a core staff to localize selected FLOSS software by making it accessible in several languages. To date the organization has achieved significant results in the localization process. Their primary advocacy is regarding software and language rights, so as to expand their larger imperative of greater access. FLOSS is used as a tool for this project – the modification of software because of the ability to modify source code, is their form of advocacy. The project of localization of FLOSS software, while being minimally orientated to one form of activity, does use this platform to advocate for language rights and the benefits of FLOSS. As translate.org states, 'Free Software in your language is true empowerment.' (Translate 2008b). The possibility to modify the source code allows translate.org.za to 'localize' the software. Here they subvert the economic choices of the computer industry. Translate.org.za intervenes 'wherever computers fail their users' (Translate 2008a).

This combination of language and information rights and the choice of the mechanisms of ICT will enable advocacy's dissemination. The choice of mechanism ultimately reinforces that technology, and as discussed in Chapter Two, it is merely a systematic device to meet the needs, wants, interests and activities of those that use it. Through its actions, translate.org.za demonstrates FLOSS's developmental potential and ability to technologically empower those that suffer from the digital divide. This can be seen in translate.org.za efforts to localise existing FLOSS software to empower individuals to 'leap the divide', 'build their own bridges over the divide' and to encourage ICT use. These modifications of source code are critical to achieve this downstream empowerment. In this regard, the organisation also supports open content initiatives; for translate.org.za believes that if ICT mechanisms are localised, then local and culturally specific content will begin to appear online. The contestation of code and related advocacy argues that with open source code the diversity in the differing forms of content will be reflected in the open content creation. To aid this process, vernacular software will allow vernacular content. Founder and Director of translate.org.za Dwayne Bailey argues that

> [i]n South Africa many languages have been marginalized through the history of apartheid, which has led to a lack of language pride. Seeing Linux users working in German and French environments made me realise that this could do the same for South African languages. I hope that simply allowing people to use the computer in their mother tongue will stimulate pride in their language. Also, learning something in your mother tongue is naturally easier. (Martindale 2002)

Politically in South Africa the use of specific languages as teaching tools at the expense of others and the privileging through the promotion or hegemony of a language has forced communication to become dominated by a select set of languages in South Africa. Further, globally information and knowledge production is dominated by English – which is problematic as many individuals, communities and societies are disconnected from this production and its benefits if they cannot speak English or access it. Languages rights are thus critical political territory in South Africa with its project of reducing discrimination and attempting to improve conditions for social mobility and life politics. This charged terrain has previously been symbolically demonstrated on the 16th June 1976 uprising in Soweto, and subsequently by language rights being entrenched in the South African constitution. Languages are also seen as vital markers of identity and experience. Therefore, the lack of languages in the digital realm becomes both a limiting factor in the social identity of participants and in their ability to participate effectively. Both process limit access, and decrease the potential envelope of possibility that the digital provides.

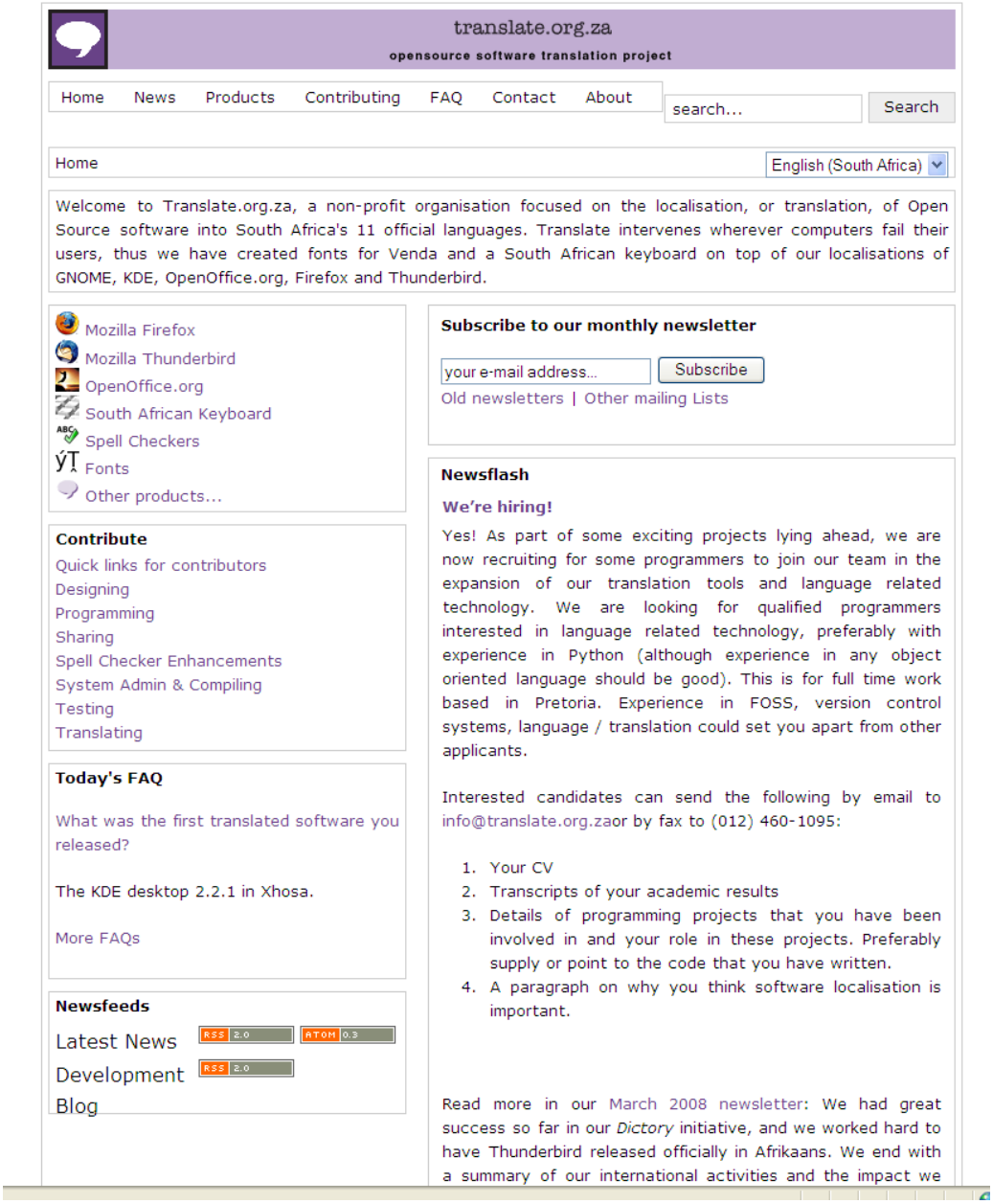


Figure 12: Cropped picture of Translate.org.za's homepage

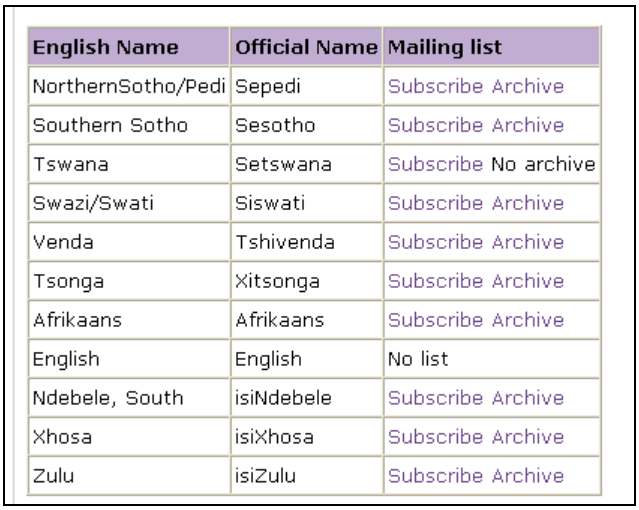
Translate.org.za's habitus prominently states that it is an 'opensource software translation project' (Translate 2008a; Figure 12). There is a textual explanation about translate.org.za is a 'non-profit organisation focused on the localisation, or translation, of Open Source software.' (Translate 2008a) The translation project also involves advocacy for language rights, and as an example of the practical application of this advocacy, the South African website can be viewed in English, Afrikaans, Northern Sotho, Southern Sotho or Zulu. From the website, users can download specific South

African orientated open source software products such as South African Spell Checker (in mother tongue) and South African keyboards which cater for mother tongue. Additionally Fonts are available for download which cater for languages such as Venda (Translate 2008d). Sections on the habitus also attempt to gain support and 'translators' for the project, indicating that there are a number of 'roles' that potential supports can play from 'testing' to 'system admin' (Translate 2008e).

Translate.org.za distributes information regarding the production and alteration of code to assist others in translating their own FLOSS software, or to assist translate.org.za in translating FLOSS in their possession. translate.org.za only actively distributes information through its newsletters, and syndication feeds, and passively directs users to information from its habitus. For example Translate.org.za has a newsletter which it sends out roughly two or three times a years, or when there is a major announcement. Language rights and their relation to identity and domination are a common underlying theme in these newsletters. For instance the December 2006 Newsflash Newsletter has the project co-ordinator, Dwayne Bailey explain the reason for the project:

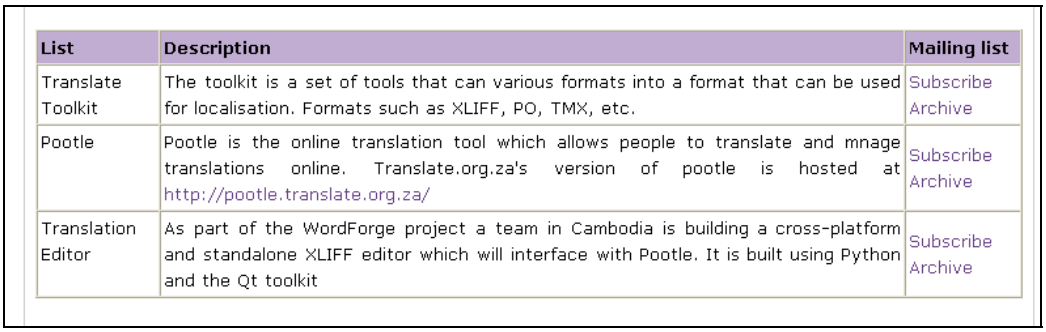
> We have two choices - either to keep using computers in English, French and Portuguese and to endure the new form of colonisation or allow technology to work for us and use the technology in African mother tongue languages. (Translate 2006)

From its habitus translate.org.za one can download 'Mozilla Thunderbird' (Translate 2008d), which while not being a listsevr is an open source e-mail client and is effective for managing information distribution. Translate.org.za also has user free-to-subscribe mailing lists in the eleven official languages (see Figure 13); in addition to software developer free-to-subscribe mailing lists (see Figure 14).



English Name	Official Name	Mailing list
NorthernSotho/Pedi	Sepedi	Subscribe Archive
Southern Sotho	Sesotho	Subscribe Archive
Tswana	Setswana	Subscribe No archive
Swazi/Swati	Siswati	Subscribe Archive
Venda	Tshivenda	Subscribe Archive
Tsonga	Xitsonga	Subscribe Archive
Afrikaans	Afrikaans	Subscribe Archive
English	English	No list
Ndebele, South	isiNdebele	Subscribe Archive
Xhosa	isiXhosa	Subscribe Archive
Zulu	isiZulu	Subscribe Archive

Figure 13: Cropped extract from Translate.org.za habitus (WB) showing the Mailing List



List	Description	Mailing list
Translate Toolkit	The toolkit is a set of tools that can various formats into a format that can be used for localisation. Formats such as XLIFF, PO, TMX, etc.	Subscribe Archive
Pootle	Pootle is the online translation tool which allows people to translate and mnage translations online. Translate.org.za's version of pootle is hosted at http://pootle.translate.org.za/	Subscribe Archive
Translation Editor	As part of the WordForge project a team in Cambodia is building a cross-platform and standalone XLIFF editor which will interface with Pootle. It is built using Python and the Qt toolkit	Subscribe Archive

Figure 14: Cropped extract from Translate.org.za habitus (WB) showing the Developers Mailing List.

Translate.org.za has its newsletters archived in the eleven official South African languages dating from 2002. In addition it has archives of developer tools which it makes available for information sharing purposes. This is in the hope that interested persons will use these tools to help translate software either independently, or as part of the translate.org.za network (Translate 2008c) (see Figures 13 and 14 above). Communication advocacy was conducted in a variety of different forms depending upon the situation and upon the network. Translate.org.za mainly uses communication to facilitate its localisation project.

From a passive perceptive, details for donations are often present on these websites. Translate.org.za sell goods, but mostly these are 'branded' as translate.org.za products, which it would seem was intended to further create awareness of its cause, interest and projects. Depending on whether one considers

programming to be applied research, it could be argued that translate.org.za did undertake research in order to find the best method of localizing FLOSS programs.

The organisation certainly used various mechanisms for planning purposes. Additionally, in some cases they invited users and others to contribute to their planning, and the content of the advocacy project. The habitus attempts to increase support through an information distribution mechanism. Further, the habitus attempted to create new networks. This was done via the distribution of localised FLOSS software hoping that its users would create networks, or via training and network support of existing or emerging organisations. On the website, because there are links to causes and projects with a similar ideology, it creates a sense of a solidarity movement. Networks are involved in outreach programs, and the scope of these projects is dependent on the size of the network itself.

The above case study illustrates how civil society organizations can use volunteer support through the Internet to improve their core advocacy. This network of the organization and its relationship with supporters shows how the Internet can potentially bring interested parties into the advocacy process without them formally joining the organization. In this case the organization did not require a large professional staff in order to continue their activities.

3.3 ANALYSIS OF ADVOCACY

The above software applications and their use by the network advocacy organisations can be considered as the network enabled cooperation mechanisms or tools for online advocacy. The tools to a greater extent also establish how formation of advocacy can take place. Importantly, FLOSS is both a mechanism to enable activism and a practice of activism. Therefore when considering the content of network enabled cooperation advocacy, one must distinguish between the mechanism and practice.

Having information accessible in multiple languages, as with the APC and translate.org.za, is important, as it illustrates that these organisations are not focused on a single segment of the national population who exhibit certain characteristics, but rather that they organise around principles and values. In this way, these organisations are attempting to court wider potential constituents. Additionally, similar information in multiple languages facilitates information distribution across

and different social networks. This allows for information to be circulated at a much faster rate as opposed to waiting for commercial publishers to determine if a market is available to justify a particular publication to be translated. This process of organisational translation bypasses that of commercial entities and eliminates dependence upon said entities. Multiple language formats also reinforces the advocacy principles of the APC and translate.org.za, and at least illustrates implementation of their advocacy. This in turn minimizes possibilities for critics to point out the inconsistency, contradiction or the lack of application of the principles around which these organisations advocate.

While the internet has significantly decreased the barriers and cost of advocacy, advocacy network actions and activities are also influenced by the funding available to them. For instance, both Women'sNet and the APC have full time professional staff to conduct their activities, while translate.org.za primarily relies upon the volunteers to contribute their time. The APC additionally benefits from having the professional staff of member organisations, such as in the case with Women'sNet because they circulate information, and conduct projects in the name, or under the direction of the APC, or with other members within the APC framework. While in one way it points to there being a benefit to becoming a member of an associational organisation, associational affiliation does have its own set of political dynamics that require negotiation. External funding is subject to accountability, so while professional staff may increase the effectiveness of the organisations, it does so under the potential constraints of funding.

One of the great ironies of digital divide advocacy is that while the internet provides civil society organisations with new possibilities for organisational structure, conducting advocacy and of organising transnational mobilisation efforts. If these organisations rely solely upon the Internet for mobilisation and activism they risk excluding a large segment of the global population that suffer from the digital divide. Lack of access could potentially decrease the potential for finding support and partnership organisations with which to collaborate. This would shape the organisation's agenda and interests in several ways, the most prominent being that certain information and interests would not circulate within advocacy networks nor find mediators of expression. To clarify, organizations who lobby on the digital divide who do not research and connect with those who do not have access to the digital realm, will in fact to some degree perpetuate the divide as their interests would

still be missing. Due to these factors, all three organisations merely use network advocacy to extend their existing strategic advocacy, as opposed to transferring their advocacy from one medium to another. In different terms, the case study organizations do not neglect offline activities, and instead use their online activities to support offline activities. For example Women'sNet gave computer training to other gender NGOs in order to extent the capacity of the gender advocacy sector thereby hoping to address gender power inequality. Network advocacy therefore is an alternative means to achieve goals.

It is important to note that within the three case studies, there was no ambition to become a governance structure. Rather the purpose of advocacy was to pressurise existing governing authorities into adopting policy and practices in line with the organisation's advocacy agenda. In some instances the organisations collaborated with governing structures to jointly implement or discuss implementation of policy and practices. Even though these organisations do not wish to seize power, they do present themselves as new sources of power, and can be seen in these organisations desire to participate with formal governance structures. This can be illustrated by the APC who engage regularly in the UN (see APC 2008c), Women'sNet with the South African government during the '16 Days of activism For No Violence Against Women and Children' (see 2008i), and translate.org.za with the SA government sponsored research institution the CSIR (CSIR 2007, CSIR date unknown, Alistair 2006). This is not to say that all governance institutions are willing or would want to engage formally with these networks of activists. Some perhaps might be cautious with this new civil society trend of fluid decentralised networks, while other governance institutions could be sceptical of the degree to which these networks represent or are mandated by a constituency.

The networked relations, modularisation and project orientated approach of these network enabled cooperation network activist organisations has therefore created a shifting and dynamic web-like organisation. For these three organisations, the internet has played a vital role in ensuring their cohesion and mobilisation. This is attributable to the internet's decentralised nature founded upon open standards. The decentralisation allows for grassroots articulation as illustrated by the above examples. Associational organisations have been able to use the internet to better circulate their agendas. This has enabled civil society groups to emerge as significant political collectives in ways that were inconceivable sixty years ago. For the same

reasons, civil society itself has been able to become less centralised and elitist, although the digital divide is a factor in hampering this process. Organisations that operate in the digital realm can mobilise in decentralised collective behaviour. Decentralisation also offers multilateral communications which enhances the circulation of information. Possible effects include greater debate for voice that would have been interrupted and a wider selection in possible actions and solutions.

In this context, the internet has become a facilitative tool to integrate and manage organisation and association. From information processing to fundraising, the internet structure gives support to emerging organisations. For instance, it is not costly to distribute information online, nor is it expensive for existing organisations to put links onto their websites. Thus the internet has become a means to cooperate across geographic space and across time.

As seen by the APC, ICT has allow network advocacy to almost negate and overcome the limitations previously imposed by physical environments. While infrastructure to that environment is important, where there is that infrastructure, communication can occur between locations that are at a distance. Further, individuals do not have to leave these locations to communicate. This gives rise to non-formal organisations that do not require constant personal interactions. Participation in an organisation is therefore dependent upon access to the system in which that organisation functions. It is for this reason that we see the APC, Women'sNet and Tranlate.org.za advocate to extend access to populations that do not have access to the internet system. While each of these organisations conduct their campaigns differently and focus on different aspects, advocating for access is the common denominator. The aspect of access reiterates the point that Giddens makes, that life politics is intrinsically linked to environmental circumstances (see Giddens 1991).

The social ramifications include that associations can be conducted and maintained during time used to work. Prior to ICT penetration, civil society association was limited to the time that one could offer after work. Currently, these civil society associations can be maintained during work by simple ICT mechanisms such as instant messaging, social networking with Facebook or MySpace, electronic mail, cellular phone calls or short messaging services (sms) and so on.

The above factors demonstrate that the internet has increased the capacities of small organisations, allowing them to have greater influence than their size suggests.

In larger organisational structures like the APC, the internet allows subset units such as Women'sNet to increase their interactions with other members. Prior to the internet, the members of international organisations communication had to telephone other members at considerable cost. Alternatively, these interactions could be done by face to face encounters also at considerable cost and organisation. Both the cost factor and the sheer coordination and planning required for face to face encounters have been considerably reduced by the internet. Currently, to learn from experiences from other subset members, organisations could use any one of the aforementioned mechanisms to make contact and request that information. It has also become easier to share information as seen above in the case studies. By doing so network advocacy is able to overcome distance and isolation to radically alter conceptions of the practice of advocacy by increasing the amount of information shared between various members and acting on the experiences, suggestions and innovations of others.

Through the extensive use of the online habitus, the internet has created organisations which are highly visible by the internet population. Thus a politics of perception becomes vital to explore as these habitus's are created to project specific values and alter others perceptions either of those values, or the consequence of those values. While a politics of perception is by no means new – it exists in every political interaction – the sheer size of the possible web traffic to their habitus, and the desire by the organisation to gain support and momentum for its particular value set make the organisation open to both scrutiny and interest. In this way the habitus becomes the symbolic public representation and projection of the values of the organisation that has had conscious consideration given to it. Branding and positioning of the organisations has two implications. The first is that the organisation to create a support base will not be specific and detailed about their absolute values as this might diminish support. For the same reason issues and values are not narrowly defined. The organisations seek the highest common denominator in regard to support without compromising their core positions, values and principles. Thus, there is a proliferation and diversity of issues that these organisations collect around which are presented as universal goals even though they might be considered as local problems – Women'snet's focus on women for instance, or Translate's focus on South African languages. Through these actions, the advocacy networks attempted to wider their audience and hence their social legitimacy by considering the local as a manifestation of universal.

The downside of this approach is that the greater the support based upon the highest common denominator, the greater the possible difficultly and friction between competing view points that can occur when directly mobilizing for collective action. It is for this reason that there is the proliferation of modular and granular organisations within a wider the set of 'networks or networks'.

These modular and granular organisations which link into larger networks have the distinctive patterns of being organized into functional components as opposed to territorial components. Prior to the penetration of the advanced ICT, members were defined by location, and conducted a variety of functions within that location. With the penetration of advanced ICT, distance is less of a factor in organisation. Consequently, organisations revolve around a particular function that can link with a variety of locations. The implication of the shift away from a specific location means that there is less dependence upon specific content, and is instead located within a global context. With an orientation to function, there is also the consequence of specialization in a particular function and hence there can be the expectation of a better outcome from the advocacy.

3.4 THE IMPACT OF GRANULARITY

Emerging from the Women'sNet case study is the impact of granularity. To repeat Kellaway's definition, 'granularity refers to the size of the components – the smaller the parts the greater the granularity, and therefore the greater the flexibility of the whole' (Kellaway 2006: 122). The organisational impact of granularity has several aspects that will radically alter the manner in which civil issues are constructed, framed and with which they are engaged. The granular structure has allowed a proliferation of small organisations which specialize in a particular function but are located and are concerned with a variety of interlinking issues. Women'sNet for instance has a very small staff component that focus on the interplay between women and ICT. Yet this focus is located within a women's rights discourse, which is in itself is located in the universal application of human rights framework. Interlinking issues can be considered as how technology is used to create or reinforce social relations. Because these organisations are small, they rely upon subjective motivations to structure and guide their actions. Thus granularity allows more individual and distinctive voices to emerge in the internet civil society and hence the

public sphere. This proliferation of voice and views reinforce the pluralistic nature of the internet entrenched by open standards.

Granularity also allows the organisation to respond to the changes in network advocacy. This response could be considered as rapid evolution, as the organisation is able to actively evolve to engage with the current factors and circumstances found within global, regional or local politics. While one could consider these organisations as following an advocacy of fashion, this active evolution allows organisations to keep abreast with current trends emerging from centres of power, and allows them to respond accordingly.

The orientation towards advocacy contesting specific issues decreases the barriers of entry to advocacy and allows more individuals to participate, volunteer or support a cause in which they have a subjective interest. The barriers of entry have previously included overarching and derivative ideologies and formal memberships. By providing access to advocacy networks through smaller granular organisations, individuals who support the issue at hand may believe that their voice is contributing to change. Examples of this are the various petitions campaigns that Women'sNet is organized. In combination, the fashion of advocacy and the conversion of individual attitudes into social pressure, will illustrate current thoughts, expressions and desires of a given population on a particular issue.

Within these networks and organisations there are two competing forces – decentralisation and centralisation. Regarding decentralisation, these internet organisations allow individuals to express specific support for a particular issue that might not have been considered in traditional centres of power. Without the advocacy network these individuals would never have been able to create pressure. Hence collectivising decentralised support in a non-formal manner and without too much time, cost or effort decentralises formal power.

Underlying this decentralisation however is overt centralisation. The very process of information distribution, and the choices made within that distribution chain means that the organisation or network acts as an information filter. As information is crucial to online advocacy, this filtering process in effect concentrates power within the connections within the network. The network as a medium for the message becomes a gatekeeper. Additionally, those with the skills available become vital components of maintaining the network, which should their be dependency upon these individuals and their skills would concentrate and centralised power of the

network. This process replicates the politics of the digital divide but within the advocacy network. Hence, those with the technical and specialist skills have emerged as a new centre of authority that has engaged with traditional centres of authority. This however, it must be remembered, is due to a decentralised communications system based upon open standards.

The internet has thus allowed new forms of civil society organisations that have fluid structural flexibility with the characteristics of high level of granular autonomy and participation from a wide and open support base. Support is not the formal criteria of membership, but rather the willingness to be included in communication processes that involve the organisation, and thus is open to most internet users. In addition, the internet allows an effective coordination for collectivization and mobilisations that is removed from specific period or locations. While the form of the mobilisation may vary, this does not limit the projects and advocacy where the organisation can get involved: as organisations position their specific interests and concerns within a larger framework, issues within that framework also gain attention.

Due to subjective interests and the increased functionality provided by the internet, it is possible that granularity could fragment larger organisations, or at least decrease the sustained cohesion during mobilisation, as it will be very difficult to satisfy all members, or supporter's desires. This indicates that there should be a focus on the transactions within the social networks of the organisation, as opposed to attempting to understand the organisations political dynamics. This could be done using actor network theory.

This also means that there is an examination of how the advocacy network attempts to modify itself to respond to the wide range of divergent needs of individual motivations of supporters. The technical infrastructure of the internet allows such orientation either through the use of code to direct certain information towards the user based upon a set of preferences, or based upon previous searchers, as is currently the case with multiple feeds streams and some online direct marketing.

As the internet can be used for multiple activities simultaneously, network advocacy is in direct competition with all other forms on online media and information, some of which are completely different. It is quite easy to simply switch pages, or go to another site if information does not hold the users' attention, or does not meet their needs or desires. The question facing network advocacy is how do they respond to this competition, and if they desire to grow their network what is their

particular strategy for doing so. While it is quite easy to retain dedicated users or supporters, in the attempt to grow the network, the particular advocacy is targeting a heterogonous population which has little interest in the activities of the network (otherwise they would already be members). Therefore to gain new supports, the network must leverage the network effect (refer to Chapter Two) by providing links to similar sites, coalition partners and multiple information streams. This however comes at the cost of focusing on directing a user towards a specific goal. Therefore, advocacy networks have entered into relationships with different actors. This is often symbolically expressed in the habitus through links and banners (see Women'sNet 2008a). This relationship allows the network to link different goals and affiliations in mutual collaboration.

The impact of granularity means that activities, such as global wide multiple expressions of a single campaign when attempting to address a particular problem, can be conducted and coordinated by a set of guiding principles. This can best be shown by activities undertaken by various activists on World Information Society Day. This event was proclaimed in the wake of the World Summit on the Information Society is mainly concerned with raising global awareness of how the internet is changing society (UN General Assembly Resolution 60/252). Attached to this is the hope of creating awareness over the digital divide. In South Africa, the various case study organizations conducted a variety of activities – some independently and some in partnership – to raise this awareness. These activities were mostly around reforms and modifications of practice or of thoughts regarding practice in the information society. Categorically the advocacy demonstrated ideas of reform and orientation towards ideal types, and was not concerned with the overthrow of the system, but instead to call attention to deficits.

As these organisations are not attempting to overthrow the system, they are able and are willing to engage in a decentralised manner with smaller sections of populations, smaller groups, regional bodies, and segments of the governance institutions to effect change at a local level, but this change is consistent with their global ethical framework. However, while these organisation have certainly made protest easier, and less troublesome for individuals involved (it becomes quite easy and less time consuming to sign an online petition), the significant factor involved in their advocacy it are they able to access and mobilize larger segments of the population in more conventional protest means. This can be seen in Women'sNet

'Bus Campaign' (WN 2008h) where 'a bus [travelled] around all nine provinces in South Africa to raise awareness around gender based violence. The main aim of the campaign [was] to inform women of their rights, and how to access these rights' (WN 2008h). Partnering with Women'sNet for this campaign was the Centre for the Study of Violence and Reconciliation and several other local NGOs. This illustrates that online mediated advocacy can be combined with conventional activism. This combination in effect can greatly multiply the reach and visible impact of online advocacy groups.

3.5 CONCLUSION

Technology has helped to create various types of networks which have allowed the technology networks themselves to become political. They also become channels for interaction and thus again besets political flows and politics. In many ways then there is a variety and complexity of the contestation of the political and of politics itself which is difficult to clearly differentiate or separate. However more research is required on this topic.

Civil society and thus network advocacy is dependent upon its context and situation. This context shapes the forms, goals and nature organisations. This is linked to the potential for social change. In the case of British abolitionists from Somerset v Stuart 1772 to 1807 Abolition Bill, their success lay in information distribution through books, pamphlets, letters, newspapers and the use of public platforms to frame the debate as a moral issue (see Keck and Sikkink 1998; Brown 2006, Brown 2007, Hochschild 2005, Walvin 2007). Additionally their protests were constrained and influenced by their context, the global political economy and local political currents. The 1960's civil rights, anti-war and 'Ban the Bomb' movements similarly used media coverage (especially television) to 'beam themselves' and their messages into the living rooms for the general public. Often the response by civil society groups to their context is dynamic, in the sense that these organisations are attempting to influence the development of that context. This influence was exerted in order to effect both structural and political change. This meant that the movements were actively contesting the structures and limits (boundaries) of the political, *and* the form of political action that were undertaken in that structure. Mechanisms in and of themselves are not important but rather indicate that there are interests within the

structures that allow their (the mechanisms) continued generation and support. This indicates that architectural structures are a site of contestation between collections of interest rather than mechanisms within that structure (although mechanisms can be in and of themselves contested). Further, network organisations must to some degree reflect and meet the need of needs and interests of their supporters and affiliates, otherwise the organisation's support will decline.

For advocacy networks to be successful, they minimally require the capabilities to use the access that they have. It is for this reason that the three organisations profiled orientate their advocacy to revolve around improving access (physical, software and skills) to technology. Yet success for the organisation is about recognizing and utilizing the strengths of the Internet architecture. For instance to maintain support, the online habitus should have regular updates, and fresh content. As updating, creating or sourcing content is an easy activity users would expect fresh content. If a network organisation merely syndicates and aggregates multiples feeds, and produces no content itself then users are likely to orientate their information collection towards other sites. Additionally as syndicated content reaches a wide audience, if the organisation does not create content, then it will fail to collect an audience. It is crucial to bear in mind that all web content competes in the attention-economy[19]. To maintain attention then sub-members and associates must up update their activities and content in order to create or retain an audience.

A further pragmatic consideration is that as online habitus are the Internet presence and public projection of the organisation and due to decentralisation which enables members to become public, the unity and consistency of appearance of the public projection must be constant, and articulate constant messages. Otherwise inconsistency will lead to conflicting information which may confuse users, members and supporters. To ensure consistency mechanisms of consensus building will have to be adopted. Compared with conventional mass media, online communication also makes it easier for associations to serve different language groups, because no separate publications and distribution networks have to be established.

In effect what the argument has demonstrated is the changing configuration of the global political economy by ICT is having profound and wide ranging effects on

[19] The attention-economy refers to the attention that users online give to information or content. Due to the proliferation of information streams, users are in a position where they have extreme choice in finding those streams and the content therein. Successful online media channels therefore compete for users attention by introducing new content, features and so on.

social and political relations. The aforementioned examples raise a number of questions regarding how data, information and knowledge is circulated and transferred through space and time. Further, this questions how this data, information and knowledge is linked to the political economy. Together these factors prompt us to examine how the changing architecture of relations, caused by the architecture and its subsequent structures alters organisation. If organisation sets the framework for potential actions and establishes the limits for that action, what then is the effect of the changing architecture upon the organisation? Network advocacy therefore requires a rethinking of some elements of social movement theory. The next chapter will examine the implications of this organisation and the political set of challenges it faces.

CHAPTER FOUR
IMPLICATIONS OF AND POSSIBILITIES FOR NETWORK ADVOCACY MOBILIZATION

4.1 INTRODUCTION

Network enabled cooperation is a dynamic inter-networked construction with a flexible, decentralized structure currently functioning on the fringes of traditional centers of authority. Network enabled cooperation when used as a structure and medium for advocacy has been able to become a globally orientated online civil society of collaborations of network activists and interest groups. These collaborations between network advocates have resulted in increased familiarity and trust between organizations and can be said to represent a segment of a global transnational social movement.

By creating new channels of communication network enabled cooperation has expanded mobilization potential and sustained interaction for social movements. The flexible structure of the network allows network-enabled cooperation to create new sites of authority. In doing so, it has increased the number of voices to organize, interact and engage with existing political structures. The proliferation of these voices, movements and interest groups online has challenged existing discourse, created discourses with new agendas and enabled counter discourses to reach a wider audience. The creation of these discourses are partly as a result of the international economy being decoupled from local political control. In response, the strategies of collectives of political power have engaged with the international economy and other mass political collectives.

Network enabled cooperation then can be linked with the growing set of literature that surrounds transnational NGOs (Tarrow 2001, Smith 2001, Keck and Sikkink 1998) that is seeking to understand the greater political changes that the emergence of network advocacy will cause and has caused. Further this literature seeks better theoretical models. As Buechler (2000) notes, contemporary globally orientated movements are not easily understood by a single paradigm. While in no way attempting to lessen the importance of theoretical understanding, it is also important to explore the implications of this particular form of organization and its related mobilization. As tasks, activities and actions are becoming mediated through

technology and across geographic space, the implications of such actions need to be examined. Thus this chapter is orientated towards the implications of network enabled cooperation and network advocacy. These implications will be synthesised with theories regarding social movement theory and technology. In the final conclusion, some analytical challenges emerging from the thesis are tentatively posed.

4.2 ANALYSIS AND IMPLICATIONS OF NETWORK MOBILIZATION

From the research undertaken five main implications of network mobilization and organization have emerged. These range from the significant impact that network enabled cooperation has in creating activities ranging from information creation to identity creation. This choice in network enabled cooperation can function as a disembedding mechanism, in that allowing new practices, creates an opportunity to reflect upon past practices. Related to disembedding mechanisms and network enabled cooperation is that the contestation of 'structuring structures', architectures and infrastructures becoming more open for more people to contest existing conceptions and configurations. In creating new structures for the contestation of locations (and structures), there is recognition of the emergence of new multiple centres of power to challenge existing structures. Critical in this politics, is the role of symbols and organization, for they both become mediums for exchange of political support.

4.2.1 Impact of Network Enabled Cooperation

In its alteration of organization, network enabled cooperation points to new conceptions of the relationship between space and time. This new relationship is on one level between these dimensions and how information is transferred through them and its impact upon knowledge-, information-, and data-formation and utilization. These conceptions in turn will have a significant influence upon how political relations form. This will impact the polemic, the polis, both the constitution and configuration thereof, and how contestation is conducted.

These new conceptions of space and time create the possibility for new identities and new communities – as in new configurations of online social networks. Cybernationalism (Eriksen 2006, Madianou 2006) and transnational identities

facilitated by the internet are both good examples of this altering of how social networks are created.

The changing conceptions of space and public space will have an implication for how we think, articulate and conceive actions within this public. This change in the relations of dimensions and the politics that is created upon these relations will have implications for information ethics, and how information is formed from the data produced in the internet space. The public space of the internet also question necessary boundary concepts (concepts that require a finite space like the 'state', 'sovereignty', 'democracy' and 'citizenship'). For example, how is it possible for a democracy (remembering that mechanisms are very closely related to outcome and structure and thus Lefort's 'empty seat of power' conception is just too limited in an infinite space (and time) as where is the exclusion of activity (Lefort 1986).

The above relates to questions of citizenship – who is able to contribute to the democracy seeing that the infinite online space and where is the boundary (in both space and time) for exclusion from the democracy mechanism? Before attempting to answer that question we have to determine who is able to contribute to the democracy. Can only those who are online contribute to the democracy? Further, what bias would emerge if the boundary of the online democracy is to be set at those who are online? Questions would also have to raised regarding citizenship – how do we determine online citizenship seeing that birth is not a factor? Additionally, where is the authority to entrench democratic mechanisms? Does it emerge from potential citizens, some who have very little knowledge about the technical nature of the internet? Alternatively, is authority vested in corporations, open standards, online civil society or governments?

To take the case of open standards – who sets the standards, or the norms, how are these norms created, do they evolve, and what are the implications if they do evolve? The choice of open standards is political, and thus is of concern to the entire internet population. Similar questions must be raised regarding other centres of authority such as governments, corporations and online civil society.

Separate networks which link into the internet also questions conceptions of authority, the role of interoperability and permissibility into a system. To consider permissibility, the open standards of the internet create a stable permissibility to explore the internet. Open standards do establish a centre of authority from which permissibility is given, but they are also contestable. Permissibility, and subsequent

interoperability, to access the internet is then a willing acknowledgement of authority – but to whom are internet users giving authority? Who in effect gives permission? In addition, which authority takes precedence in the authority of rights and actions over a particular person in geographic societies which are interwoven with the internet?

To return to the internet space which enables the creation of new identities – who is going to govern those identities and how do we determine the limits of governance in the configuration of actions and rights? While open standards might become a form of governance, do open standards confer rights? Further, how do we configure rights and who enforces those rights? Additionally what is the constitution of those rights, and how do they interact in the aforementioned interwoven societies? Questions such as these relate back to potential forms of online interactions, but also sketch potential and far-reaching implications

The Internet, by providing a network communication medium, facilitates the multiple interactions of individuals, various sizes of social networks, communities, nations and online civil society. Interaction between members thus sees arguments for online public space (see Calhoun 1997; Langman et al 2001), articulated in a tradition of discourse which has as its public space markers of undistorted and open communication. Extrapolating from this Calhoun (1997) and Langman et al (2001) see a possibility for the internet to be a space for democratic actions. Hardt and Negri (2000[2001]) reach the same conclusions, although they argue that there is massive contestation and efforts to suppress this online political ('democratic') space because of existing capitalist and political oligarchic interests. While minimally this public space mediates social interaction, Tarrow (1998) argues that this mediation can create conditions for 'alternative political opportunity structures', which in turn will significantly transform political relations and society offline.

The above line of argument has flaws as it neglects that political relations innately reflect power and contest it. In the relations of territory and the public space contained within it, there are collectives of power and interests that ensure or at least attempt to ensure that public space is granted or protected. While one might argue that the open standards of the internet ensure public space, we must not forget that someone has in their possession and control the servers upon which data is stored, and that someone owns the cables in which data travels. The code might be open, and thus is an open software architecture, but the physical network infrastructure is

controlled – there is someone who is responsible for it and its maintenance. Thus, this 'democratic' and 'public space' has boundaries. Pluralism does not necessarily imply democracy.

In addition to the arguments above, space to function as public space needs stability. Yet the internet is hardly a stable environment. While digital material may have a low cost of replication this content is not stable – one need to take into account code changes, mark-up languages changes, base document formatting changes and links that are not permanent, and the potential of servers to crash and data to be lost. Compounding this is that technology progresses, changes, alters and adapts. Who makes the changes in based technology standards, and if they rely upon open standards, who is in control of these open standards?

FLOSS and the Internet have shown and reiterated that structures create frameworks. Structures structure the framework in which experience and action is created. In this manner the architecture of the structure (and who are the architects?) becomes a vital element to explore. To take the case of the internet, commercial products produce services which customers pay for – Amazon (www.amazon.com 2008) and eBay (eBay 2008) being two examples – yet those services servers run Linux in addition to using open standard exchange protocols. As another example, Google run their servers on Linux. FLOSS is not limited to desktop software, but rather it is a form of architecture. The great success of FLOSS is the internet architecture which creates the possibility of interoperable connection. It is this interoperable connection that allows networks to connect, and thus network advocacy.

The mobilization of this network advocacy, facilitated through network enabled cooperation, has created a situation where political, social and economic advocacy becomes more about specific issues rather than monolithic ideology. In this case it allows individuals 'attached' through network enabled cooperation and advocacy networks to give their attention to specific issues. This allows greater choice from the individual's position in which advocacy issue to get involved in. This can have a negative position in relation to continuous campaigns. The flexibility of support is a double edged sword as it can strip organizations of their member support, or a central organization of its peripheral support.

Network enabled cooperation can collapse the distance between organizational matrixes in turn creating a flexible network advocacy. In practical terms, this has created greater scope *within* organizations, *within* organizational partnerships, and

within advocacy networks to take initiatives for programs and action. This creates a situation where there is a multiplicity of programs, actions and advocacy tactics from a variety of sources with a variety of perspectives. This reinforces the role of support, as supporters will congregate to programs and actions that are seen to be successful, or for whatever reason resonate with their polemical positions.

These two factors of flexibility with a multiplicity of organizations create an 'evolutionary' model of advocacy support. In principle, I would argue that evolutionary models are present in most aspects of social life. The difference with the online advocacy evolutionary model is that its periods are quicker. Thus, *the rate of change within the advocacy model* has increased. The flexibility of support and variety of *known* programs and actions therefore creates an advocacy that is more reflective of social attitudes, segments thereof, and the shifting fashion of interest.

The fashion of interest is also influenced by network enabled cooperation enabling a new method of transferring knowledge, information and skills between different segments of the network and through space and time. It also increases the rate of which knowledge, information and skills can be transferred or distributed through the network. As online networks link into offline networks, network enabled cooperation supplements the 'traditional' transfer of knowledge, information and skills.

This is not a formalized transfer, nor is it informal, but rather non-formal. The information transferred is heavily influenced by experiences and the context. Therefore the information which is transferred is conditional. This does not mean that it is not useful. Instead those on the receiving end of the transfer must be consciously selective when choosing what is applicable to their conditions and context. Thus this non-formal transfer is very modular. The visible effects of this is that messages tend to be short, direct and written is a manner which express the intent of the message as opposed to being very specific.

Due to these factors, the transfer of information and the knowledge is a political action. The message itself is 'shortened' and thus assessments have to be made regarding what information is to be excluded. Further, due to the expressive nature of the transfer, the interaction with the message can be interpreted differently according to the conditions within the context. The modularization of the message in turn means that it can be used selectively, which in combination with differing contexts, different situation, and their own particular experiences can create differing inputs to configurations, content, and networks of network enabled cooperation and advocacy.

This therefore directly shapes the constitutions of configuration of contestation between advocacy, targets and supporters. This influences the potential outcomes from advocacy.

For the aforementioned reasons, the network enabled cooperation can also create new types of information, knowledge and data. Additionally the power relations and the potential to use these power relations become critical new areas for exploratory research.

4.2.2 Disembedding Mechanisms

Taking the above four major points into consideration – the transfer of knowledge, organizational flexibility, new conceptions of relations between space and time and mobilization around issues – it becomes vital to recognize that new identities and political structures are in formation both online, and do impact offline.

While the internet is certainly a social disembedding mechanism, these new identities, can with the help of the internet act as political disembedding mechanism which can be used to separate states, space (or territory) from identity. These new formations of identity use software, hardware and network infrastructure as mediating structures. In this way these mediating structures act as 'melting pot cauldrons' to create social networks of interest, and by extension, advocacy by interest as identities shape potential actions, experiences and realities[20]. Here the importance of identities lies in shaping advocacy, advocacy actions, the purpose of advocacy, and the purpose of identity to shape advocacy and concerns. This will certainly impact upon contestation at various regions, levels and which certain structures. Additionally, it also shapes then the formation of *interactions with these* identities. Thus engagement with new identities will be a new terrain for political engagement and contestation. Extending from network enabled cooperation, its network mobilization, and these identities there is an impact and creation of social turbulence in both action and function as these identities attempt to engage and interact with existing power structures. In mobilization and engagement, network enabled cooperation advocacy is attempting to gain the attention of existing power structures. Further, the ability to push into these power structures will create a social turbulence as all actors attempt to

[20] It must also be noted that actions experiences and realities do influence identity.

find strategies to engage, accommodate or ignore the rise of network enabled cooperation advocacy.

Turbulence is also created when these network enabled cooperation advocacy collectives attempt to become recognized civic-politico structures that are legitimate structures requiring engagement from existing political structures. This turbulence takes on the characteristics of the 'politics of recognition' (Taylor 1994) which is contested between the online and the offline, and between what at this stage could be considered (although hesitantly) as conventional political structures and emergent network enabled cooperation advocacy. As network enabled cooperation advocacy attempts to find structural legitimation – a legitimation of place and presence as a political force through engagement with structures are entities with which the network enabled cooperation collective disagree – here the politics of recognition is one where the network enabled cooperation and its mobilization potential seek recognition of their potential power. Network enabled cooperation advocacy wishes for the existing political structures to recognize their influence and their ability to mobilize. In this conception, the network enabled cooperation advocacy collective is attempting to position itself as an online civil society which seeks to use its potential mobilization power to check existing political structures.

Turbulence is created as network enabled cooperation advocacy seeks to become a recognized civil society and attempt to 'gain a position at the table', and by target actors as the seek to find methods to engage with digital networks in which potential mobilization and political strength cannot be confirmed. For both the target actors and the network enabled cooperation advocacy this social turbulence is to a degree about accountability and legitimacy. In regard to accountability both the groups challenge the accountability of one another. For instance target actors question the network enabled cooperation advocacy organizational membership and whether that organization is accountable or even representative to this membership. Yet as argued, these organizations do not have membership but rather flexible affiliates and supporters from interest groups. In regard to representivity, it can be argued that these network enabled cooperation advocacy collectives do represent an various interest groups, and are legitimate because based upon support and mobilization (or potential thereof). This is due to the evolutionary and flexible support function. These network enabled cooperation groups continue to have support and can mobilize that support as they are merely facilitators of a political and interest collective. As

soon as the network enabled cooperation advocacy fails to represent its supports, these supporters will congregate around other network enabled cooperation advocacy collectives.

If network enabled cooperation advocacy collectives do not represent their supporters when engaging, then non-representative network enabled cooperation advocacy collective reinforce elite power engagement instead of opening up discussion and contestations to the civic.

4.2.3 Entrenching and Contesting Visions of Architecture

Network enabled cooperation and mobilization in a moderate manner seeks to entrench the potential of software network political architecture in opening space for alternative voices, discourses and narratives. From the network enabled cooperation advocacy perspective, the focus on political actions in safeguarding open standards to create interoperable network becomes of critical importance for not only these network enabled cooperation networks, but of society at large that seeks the space for the aforementioned voice and participation. The success of the internet is due to its being based upon open standards of exchange. In this way the internet functions as a political singularity – which forces us to recognize the importance of underlying architectures of participation, even prior to content that subsequently emerges.

Architecture which allows voices to become heard, or at least the opportunity to be heard thus adds to diversity or to the potential for diversity to emerge. However, with the increased interaction that open standards allows, perhaps there is space for new identities to emerge, however, these identities within the space of potential new relationships brought about by open standards may increase interaction between diverse groups and individuals (and even if that diversity is by factions or degree, there is a possibility for a creolization of identity to emerge). The possibility of creolization presents a model of social network identity emerging through concurrent fragmentation and harmonization of different identities, cultures and perspectives interacting. This will impact upon contestation in many ways – the most important being how contestation and support of particular contestations may be fleeting and that individual's mobilization is based upon support from social identity and its characteristics. For example advocacy for 'being green' and 'supporting green' is in vogue and opposed to substantial engagement with a particular issue. In this case,

advocacy becomes a component of a particular identity and thus an affiliation with a particular cause. Affiliation as opposed to engagement contributes less to the critical mass required to create social change.

The increased awareness of problems, via online advocacy, information distribution, and also the popularization of problems, is certainly a strong aspect of the network enabled cooperation advocacy. However awareness without subsequent engagement does not really create social change. There have been a few critiques of this phenomenon as the popularization of protest via media proxies in fact diminishes the potential for social change (see for instance Klein 2000).

Exacerbating this problem is that open and inclusive membership diminishes the shape, clear, concise and constant message of a particular advocacy. In real terms, the more support one gets the more general the manifesto of change is to accommodate the contesting viewpoints of the membership. In the case of network enabled cooperation advocacy, supporters and affiliates are vital for mobilization, legitimacy, and to obtain 'a seat at the table'. But this comes at the expense of specific concerns and demands. In the attempt to gain support for 'a seat at the table', network enabled cooperation advocacy must smooth the internal contestations at the expense of specific demands. Network enabled cooperation advocacy must cater for instant gratification advocacy to gain support. But this strategy is not the optimal approach when attempting to lobby for social change as instant gratification for personal conscience is periodic and short-lived in comparison to the sustained pressure over a long period required in order to affect structural change.

There are several implications which stem from the above analysis. These are the formation of network enabled cooperation groups to challenge 'old' social formations, while simultaneously introducing 'new' formations of social configuration. In doing so network enabled cooperation groups create new models of politics and challenge older conceptions. This would certainly affect the contestation of social change in both application of effort and in theory to account for these new forms. Having examined the uses of network enabled cooperation technology, the particular contextual relations become vital elements to examine. In this case the relations between the internet as a site of network enabled cooperation technology and network enabled cooperation advocacy and the political economy of context.

The contestation over networks is in two ways recognition that networks transcended local political governing structures and boundaries. Further networks are

the primary ecosystem – of life, of habitat, of information. This has emerged as the transcended networks are being contested themselves between various interest grouping.

Does this herald the end of the nation-state? (see Guehenno 1993[1995]) Here the 'empire without an emperor' is the network, under constant contestation by MNC, market forces, culture, direct governing, and global cosmopolitanism (and the harmonizing [/homogenous] of cultural tension through increased interaction) (Taylor 1994). Key to this process was the communication technology revolution begun in the early 1990s – which one can speculate will probably have more significant implications for social relations than the European Industrial Revolution in the 1800's.

Network enabled cooperation advocacy is a response to capital having transcended the state, and thus begs the question of whether the state is complicit or marginalized in this process of transaction? In this framework, what power does the state have, and is that power dependent upon the contextual relations? States still exist, they have not physically disappeared. In some sections it is eroded, and it has very little power – just examine the majority collective of states the UN. Further, ethnicity and territory are concerns. There is also a disconnect from nationhood. Perhaps the modern 'imagined communities' are changing their markers (from ethnicity to continued interaction), from collective imagined identity to social network identity – shared interaction and experience. Finally, visible security is still the concern and mandate of the state although this is debatable. Is capital merely using the state to secure the relations of networks, and thus information for capital's sake? Additionally in many places, states have failed to keep the mandate.

By acknowledging both new social networks and their advocacy equivalents online and states parallel existence and sharing of humans' identity, attention and political and social consciousness, we must recognise that the human's network world has expanded to include the online realm. This does not necessarily mean that the state is eroded from being the single source of power. Additional features of this current human network in relation to states there are additional pressures, but internal and external (immigrant groups, culture, migrant capital) and from multilateral governing institutions, technology corporations and social activists. These ideological challenges to the power of the state seemed stalled; they do allude to the contestation over networks, information flows and access.

Crucial then to recognise is that technology can both act as an enabler, and a delimiter of social action depending upon its contextualized deployment. Subsequently technological architectures (and there are multiple levels of architecture) inherit the same characteristics. Thus who is responsible for and has the power to enforce human developed architecture is a very legitimate concern. Are we in an epoch of corporate development, of corporations becoming the drivers of change? If power and finances are not under the control of the state who would maintain and development the infrastructure and what would their incentive be to do so? Crudely soft anarchism lobbies on the issues of access while the corporate create the physical networks. Is network enabled cooperation advocacy then dependent upon corporate infrastructure and business models? This is the implicit situation that the FLOSS network enabled cooperation advocacy inspired movements seek to avoid. This indicates the importance of technology that can be easily reproducible and thus to a degree socially controlled. While this model does not hold for all technological artifact developments, from the experience of FLOSS inspired network enabled cooperation, these advocacy networks one could imagine would be supportive of reproducing this model for as many technologies as possible.

As a result of network enabled cooperation advocacy, the very practices of ideology, identity formation and the practice of advocacy are going to be more flexible and the strict hierarchy in organization will diminish. Further, coalitions and strategic partners between seemingly divergent interests are going to be more common. This leads to renegotiation of campaign identity by reducing tensions between groups – thus massive inclusive strategies at the expense of detailed and specific demands. Charters and 'throwaway slogans' are likely to become commonplace under these campaign linkages.

Specifically for power relations, these will become buried under the mass linkages, rhetoric, and discourses of 'partnerships' and 'network advocacy' There will be 'points' and 'role-players' under the guidance of 'organizing committees'. Apparent flexibility and accommodation will however mask underlying power struggles and contestation between individuals, groups and networks. Further, large amounts of energy will be spent attempting to retain support for these hidden 'political hands'. Additionally the sheer complexity and fluidity may be configured on a case by case basis, however much political positioning will be undertaken to ensure that one groups 'version' of the umbrella strategy will win over another

group's 'version'. This contestation over the privileging of certain aspects under the umbrella will be undertaken over closed communication channels so as not to contest the visible political advocacy collective. These solid communication channels will to some extent be shaped by core leadership, yet this shaping process will not be as visible as other network enabled cooperation advocacy platforms.

A further significant implication of network enabled cooperation is that there will be new realms of intra-organization politics around leadership and participation. Traditional NGOs have been organized by a specific leadership structure[21]. Network enabled cooperation advocacy on the other hand straddles both NGOs and social/mass movements. Here the implications of this form of organization are focused on leaders. As there is flexibility in the leadership and support structures, and the role of inclusive and open affiliation with its participatory characteristics, there is potential for an increase in contestation for leadership and direction. Fragmentation due to leadership conflicts is also expected to increase.

4.2.4 Conceptions of Public Space, Location and Boundary

As 'public', 'semi-public' and 'private' communications intersect online it forces a re-evaluation of the conception of public space. The argument throughout the thesis has suggested that location / boundary has become a diminishing concept as ICT is assimilated into everyday life. However, one should not overstate this case. We should see the diminishing of current location and boundaries as recognition of locations and boundaries that are greater than our current perspective. Perceptions of boundaries have merely got larger, perhaps in a current historical trend as we experience things from a greater distance – the village, to the city-state, to kingdoms and the nation-states – to the United Nations…

If locations have 'grown', so too have the identities that are attached to them, and we thus find that as humans we have more in common than perhaps previously acknowledged. The ever-increasing use of ICT in the everyday interactions of individuals makes possible new forms of social relations. Included in these social relations, are political actions which have the potential to shape not only the virtual environment in which they take place, but also real space. The conception of new or

[21] Some have professional leadership structures

virtual public space is indeed a viable concept that has emerged and follows real public space. As with real public space, communities and social movements are possible in this virtual public space. The interactions and movements in this virtual public space present options for current and future social movements to improve their efforts to gain participation and access to politics and economics globally. With regard to the FLOSS movement, they can be considered as a social movement that has emerged from an imagined virtual community network by internetworking, mobilizing and developing software to increase access to ICT. These social movements can be said in practice to be increasing the participation potentials of ICT.

The FLOSS movement and its actions also acknowledge that the idea of what is political is simple; it is the existing and legacy interactions between people, however 'weak' or 'strong' their forces might be contesting for control over the future trajectory of their world. The changing nature of the political further alters what we understand as political actions. With that comes the challenge to current concepts, one of which is the social movements. Online organizations and communities exist. They are virtual in a sense that they are bits and bytes and require an imagination, but their influence can be felt in geographic locations. In doing so, their power is similar to 'real' social movements. Yet perhaps the greatest impact of the FLOSS movement is that it allows us to acknowledge that wherever humans interact for a period of time, bonding relations and communities will emerge. 'Online settlement' via these interactions, bonding relations and communities are real in a virtual public space. In this sense there is no distinction between the real and the virtual.

Further, it is important to recognize that culture does not necessarily require a specific 'national' public space, but instead operates as any space. ICT has the ability to open up public space for cultures to circulate, intersection, contest and engage. Additionally these actions due to ICT can become disconnected in space and time. Delayed broadcasting, pod-casting, on demand viewing, voice over internet protocol (VOIP) and text chatting allow culture to become disconnected from space and time. Implications potentially include the diminishing the dominance of the 'national' in a person identity and their location. Public space becomes a common space for all. It is accessible to those that have the use of ICT. This applies to both individuals and organizations. Further the removal of the national aids efforts to engage in other public spaces. In effect, the accessible public space increases as the dominance of

locality is decreased. ICT allows organizations to discard the national and increase the areas in which they engage.

Electronic networks allow us to recognize that culture is portable and mobile across networks. One implication of the electronic nature of the Internet is that culture becomes 'tagged', 'meta-tagged', 'streamed' and 'pod-casted'. It is now easier to disassemble and (re)package. The emerging dominance of the network enables recognition that culture increasingly becomes content. There are politics involved in culture becoming 'tagged' – the sheer process of indexing the material that flows through networks has political implications – someone must tag that information – who are they, who are they accountable to, how is the tagging to be done, what are their motive in each process, and what interests are being presented for what purpose? The politics here is similar to the politics involved in digital archives.

Hence, ICT allows greater opportunity to transform sets of geographically dispersed aggrieved individuals into a densely connected aggrieved population. Similar to print media which enabled the move of consciousness from the local to the emerging 'national' levels of shared identities as citizens (Anderson 1991), the Internet and ICT has enabled new forms of consciousness, community and identity as well as new forms of connectivity at transnational or global levels. This creates virtual public space for inter-networked organizations to engage, collectively outside the mainstream media and existing political structures or notions of public space.

This transformation can be attributed to ICT changing social relations through political, economic and cultural globalization. The Internet has provided a many-to-many networked communication medium and P2P networks. This is being used to disseminate information not easily available and to organize new virtual, often dispersed communities and cultures. By doing so, creating various virtual public spheres in the tradition of open, undistorted communication and social configuration. These virtual public spheres or new public spaces mediate social relationships and create the conditions for alternative political opportunity structures that have implications for the transformation of society.

ICT is changing the nature of cultural networks. These changes range from behaviour, methods of operation, organizational dynamics, operational space and the notion of public space. Together the potential of these changes suggests that the relationship between the movements, its activities, members and supporters is not entirely dependent upon a geographically delimited space. Rather, it is dependent

upon the strength of the network. ICT allows increased 'distance' to be placed upon an organization and its structure without decreasing its cultural effectiveness. In addition, the use of ICT allows new geographic areas to be reached and included in the reach of that culture. Thus, spaces that had not previously been incorporated by a culture can be reached and affected by it. An expansion in the areas in which social movements operate, creates an opportunity for new forms of identities to emerge in new locations. Understanding the change that ICT brings into the public space, organizational structure and identity is no longer cemented in physical space, nor is it necessary for that organization to be effective in addressing its concerns. These social movements need not be tightly organized, with constant physical interaction between members.

4.2.5 Recognition of New Sources of Power

New sources of authority have emerged as media advocacy shifted through the late 1990s away from content towards a digital rights orientation and towards issues such as intellectual property (IP), privacy and software architecture. However this focus however neglects the underlying network infrastructure. While some organizations do attempt to examine the politics around network infrastructure, this approach needs to be married to economic arguments; otherwise, existing social configurations are unlikely to change. In the information and knowledge economies it is who owns the network that is the critical sphere for lobbying. Questions such as 'what rights do internet surfers have?', 'what is the line of accountability and in what territories does this accountability hold?' and 'how do we ensure uniform transnational standards and norms in network infrastructure?' These are questions that activists should engage with, as network architecture emerges from infrastructure architecture, and infrastructure architecture emerges from existing social, economic and political structures.

A further implication, or awareness brought about by the network enabled cooperation advocacy is that communication information practice and policies have become a global concerns, and the local is inseparable from the global. This has implications for how issues such as privacy, infrastructure, IP, identity are regulated. Yet questions also arise about the power dynamics within regulatory framework, and whose specific interests do these bodies cater for, and how do we allocate seats within

this regulatory framework. These architectures and the power dynamics which creates it become central to the conduct of social, economic and political life – they become central to Life Politics in a knowledge and service society.

The above factors indicate that new conceptions of relationship are in formation and that through the creation of new identities new political arenas are under construction. In this construction, network enabled cooperation advocacy is seeking to become a legitimate site of political engagement and is attempting to consolidate a platform for political actions which is exclusively relationship based. In this way relationships of power are central to the understanding of this political realm.

The focus on relationships (on network relations) forces recognition that it is the architecture of relationship that determines the impact that those relationships will have on the contestation and on political actions. Architecture then forms a constraint or enabler of the content of political action. Here systematic structure shapes how political actions are formed. The study of politics under these conditions sees the architecture of politics being more important in creating political reach and political support as opposed to content of polemics. Content will only be able to reach an audience if structures permit it. Thus the importance of FLOSS as a collective identity and practice which can generate its own architecture is important for network enabled cooperation and network advocacy. Software which creates architecture becomes of a natural choice of advocacy movements – as the software can create the space for advocacy discourse to emerge – in this way it could be seen as counter hegemonic – but the attempt to create space for voice and advocacy should not be seen as subversive – but merely as enforcing democratic rights from within a liberal democratic framework.

As argued at the beginning of this section, because of the ownership of network infrastructure, the internet cannot be considered as having any fundamental democratic potential. While there is participation, participation is not democracy. However can the architecture of participation (based upon the use of open standards) become an ‘empty seat of power’ (Lefort 1986)? Architecture is certainly a ‘seat of power’, yet it cannot be prevented from being occupied by exclusive interests by increased participation. Increased participation, network enabled cooperation advocacy and the attempts for the politics of recognition for the online civic-political are reliant upon network infrastructure. Even while FLOSS might create a software architecture, or attempt to entrench open standards, we must recognize that there are

multiple levels of architecture, but that software architecture is reliant upon an architecture of network infrastructure.

Thus, while there are new conceptions of contestations over composition, configuration and constitution in the internet space, these contestations sit above political contestation in geographic space. To conclude, we must recognize that the internet, as an open standard network and current ICT are components of a major historical transformation of social relations, yet rests on the bed of 'conventional politics' in that, as argued above, the idea of the political has not been altered in that power and control have not been morphed into new concepts by the internet. Instead, the political is the space in which various forces contest one another for the control of how a society unfolds and develops.

4.2.6 Organization and Symbolic Power

Organization as a concept is a contestation (even if it is of a subtle or minimal nature) or and struggle over order and authority and the power that maintains or creates the two. To create order and authority, power utilizes a number of 'tools'. These range from the physical manipulation of objects to the more subtle use of discourses and structures to fence in and create fields and limits of other's action. The role of symbolic power to create structures is important, as these symbols are often though of as 'common place' or as traditions. Seen as common place they act as an 'invisible power' (Bourdieu 1991:164) and as 'symbolic power' (Bourdieu 1991:166), and not seen as a force emanating from formal authority. This however is misplaced as symbolic power, following Bourdieu, is the use of contestation to guide practices and give legitimacy to those practices within a specific framework (Bourdieu 1977[1988]). In relation to organization and the Internet, this symbolic power is the code and open standards that allows an interoperable commons. Contesting or evoking open code, open standards and the extrapolate of open source, open content, open access, and an open society therefore is an attempt by network advocacy to claim the organization and the symbolic power. It is a total claim on behalf of open societies.

This radical liberalism in effect wishes to dictate a particular entrenchment of social configuration – in effect stipulating that the open society is good and that is a non-debateable point. Further by positioning themselves as in a human rights

paradigm, any group in opposition to them is cast as trying to limit or erode human rights. Thus there is an effort to self-create less-contestable legitimacy. However this claim of symbolic power in the Internet rests on the power, interests and structures of geography. Context, structural or otherwise, the perceptions of that context, and the contestation involved in creating (/manipulating) that context are the politics of power.

Of particular interest and relevance are three attributes of power to create order. Firstly, there is the reinvention of the symbolic for a new purpose, in this way attaching legitmation to that process of reinvention. Secondly, there are multiple practices and the use thereof is dependent upon the context. These practices may well vary within an organization or network, differ at multiple levels and be dependent upon the audience involved. Finally there is recognition that due to the involvement of audience, that the audience cannot be thought of as a singular entity and also is affected depending upon the medium used. Thus within a 'singular' order, there is by nature contestation. With multiple centres of power, influencing and manipulating the audience becomes vital to maintain legitimacy. Thus the control of architectures becomes vital to establish order.

The internet as a technological artefact has allowed new mechanisms and configurations of contestation to emerge. Yet while the constitution and content of the advocacy revolves around the configuration of the internet, the introduction of the internet parallels offline contestation. Offline contestation between 'governance structures', 'capital structures', 'the public', 'civil society' and 'society-at-large' was, to a large degree has been recently (the last 150 years or so) confined to the boundary of congruency of between governance structures and identity. From the fragmentation of this congruency (for a variety of reasons) emerges shifting realms of contest inside, outside, and over territory. As the nation-state has been eroded, multiple centres of authority have mushroomed. These centres of authority – capital and civil society are two examples – by virtue of existence are contesting the authority over individuals that was previously primarily the responsibility of the state. It is fair then to say that the introduction of technology has further increased the potential authority and influence of non state actors.

Accepting that states' authority has been eroded, and that it is undesirable (polemically) for capital to have a monopoly on authority, that leaves us with global civil society as an alternative for establishing governing structures. However, as

network advocacy has should shown, civil society is subject to the politics of its constitutes for legitimacy which is in itself very fleeting and subject to simplistic and instant political gratification – similar perhaps as in representative democratic societies. Civil society then has no claims for governance due to its unreliable structuring but is central in attempting to influence governance structures.

The question then of how does global society at large create a political collective and find 'political will' in a jigsaw of multiple authorities each which claim segments of an individuals life? This in itself raises questions regarding the mediation and mediums of the process of forming a political collective. Further there are contested meanings and contested power hierarchies over the individual's identity and whose claim of authority they choose to recognize.

In each of these cases, the underlying contest for future structuring of contestation belongs with the architecture. As mentioned above, ownership of architecture determines the structure and limit of conduct of human life. The contest in Gidden's Life Politics becomes one of foundational architecture and active ownership – 'how do we decide what structure?' While global civil society in the form of FLOSS orientated network enabled cooperation network advocacy may be contesting, creating and entrenching a particular software architecture, the real power lies in ownership over the foundational technological artefact – in this case the communications infrastructure and hardware used by software. Ownership hereof establishes the frames of control, values and choices. It is at this level that little activism has been consciously orientated. The awareness of symbolic power and its associated practice and of the structures is the beginning of attempting to change those structures and practices. Understanding symbolic power also helps those that have little power to stop affiliating with structures that legitimate values and standards with which they do not identify. In this regard, FLOSS orientated network enabled cooperation network advocacies have, by presence and practice opened up the space for awareness.

4.3 SYNTHESES OF IMPLICATIONS, TECHNOLOGY AND CIVIL SOCIETY

The structure and flexibility used online with network enabled cooperation creates new centres of power, authority and contestation. These organizations are not tied to

a location or issue but are mobile and evolutionary. Thus power is not a geographic constraint or fixed to a territory. In attempting to map this online realm, many of the old categories are difficult to apply[22]. New maps are required – yet maps themselves can easily change our conceptions of territory and potentially reinvent it. Holding the position that we need the map to best represent the territory as it as opposed to what we think it might be it is this aspect which this section aims with which to engage.

The choice of specific organization raises the question of the selection of structure and conscious motivation. Does the advocacy network collectively and consciously think and act in terms of social action, seeking in someway to improve the lives of individuals or society who are not directly affiliated with the immediate project? Understanding that advocacy network interacts to shift the social agenda, what are the inputs to that network? Advocacy networks are networks of interpersonal ties are indeed 'real' in that they form durable relations that provide a number of social rewards including sociability, identity and support networks. Social movement literatures have gradually identified a variety of incentives to engage in activity, including individual rewards and skills building, social rewards, network pulls, and ideological framing. It stands to reason that online movements will find similar minded persons interested developing the community aspects of online relations.

The strength of the online civil society is that it is able to link and connect various geographic sites, struggles and groups to form a greater pressure grouping. While this grouping because of its size and diversity of locations, personal and interest can be cumbersome, unwieldy or difficult to formalize, this organizational structure seems suitable in order to accomplish the tasks that it has set to achieve. For instance, these civil society groupings do not wish to take or seize power, nor do they contest formal political procedures. Instead, they contest conceptions of justice and fairness through by which they aim to improve the life politics of people that could benefit from digital access.

In this conception, the internet is merely the mediating structure for contests that parallel online contests. While there are several benefits of using the internet (such as reduced cost of communications), this benefit is by no means significant as ICT and it use has become an infrastructure to which most organizations have access. By this, I mean that the internet no longer gives an organization such as businesses and civil

[22] A map is not territory, only a description thereof.

society groups a competitive advantage in interactions. Instead, the competitive advantage for groups and organizations is relative to those that do not have access. In this way, the advocacy by the selected activists in this study aims to deduce competitive advantage and ensure that internet access becomes a force for equality.

4.3.1 Conclusions

ICT has altered the manner in which civil society engages with existing interests, existing institutions, and the public. ICT provides an ongoing method to build support and interactive feedback with the public. Due to the Internet advocacy, networks of all sizes have been presented with a technological tool in the form of relatively cheap and highly customizable communication system. This has created a fluid, granular and decentralized network advocacy with often tends to seek similar organizations with which to cooperate. As a form of interlinking civil society, it structure has allowed organizations and interests to leverage the network effect (see Chapter Two) in the hope of affecting social change. Without the Internet, the chance of being able to create a transnational or global civil society decreases significantly. Further, any effort to do so would require significant financial investment as was seen in the British Abolitionist movement. This is not to say that transnational campaigns by civil society did not take place before the Internet became a mainstream communication tool. However, it is vital to be aware that the Internet, and FLOSS, *decreases the barriers for entry* into local, national, transnational or global civil society and provides interesting and new methods to conduct advocacy both passively and actively. This repeats activism efforts in the digital divide.

All three cases studies show in various ways how it is possible to engage with existing power structures. Their ability to do so illustrates that network activism is capable of creating creditable social activism. As Internet users increasingly tend to optimise their utility of the Internet, so network activists must be aware that if they do not present issues that resonate with the internet population, then it will increasingly become difficult to create the network effect, and in turn limits the ability to create a critical mass of supports to change circumstances. The downside of using the Internet is that support is fleeting. In addition, granularity is a point of frustration to established formal system as these organizations are not stable, precisely defined repeating structures with established rules and predictable activities. However, these

factors considered, the Internet is a complex environment where organizations cooperate and compete using symbolic power enabling organizations to member solidarity into direct power.

New granular organizations have emerged due to the flexibility, decentralized nature and inclusiveness of the Internet. These micro collectives are able to interlink with both smaller and larger collectives to become a significant political force. Using a network structure, granularity breaks down traditional distinctions between those in an organization, and those on the periphery. Thus, a versatile (and decentralized) issue-based campaign emerges – as Keane states, 'ethics without borders' (2003). This is not to say that all organizations will become globally orientated, merely that they could adopt this orientation should they choose, the opportunity structure is present, and that they could express solidarity, which is a passive form of activism, but more so they could integrate into or create a large overarching coalition, association or network to lobby at the macro global level.

However, as mentioned in chapter two the Internet is merely, admittedly a flexible and adaptive one, a technological tool that mediates actions. Thus, organizations that contest in the Internet realm must parallel their contestation and engagement with offline, conventional activism. It is for this reason that the three cases studies do not act exclusively online, but rather use the online realm to support their conventional activities. Online actions can also be used to support more conventional activities, such using a mailing list to inform members of a meeting, or more visibly posting meeting dates on the online habitus. Online expression through the habitus can also be used to reiterate values, norms and practices.

Online organization in the coming years is likely to be vital to determining the success or failure of activism. The sheer mobility of capital, skilled workers and information combined with ever more portable technological devices (both physically and through interoperable network connections and code) is likely create circumstances where the Internet becomes the standard forum to organize activism, even within small granular organizations. This trend is already visible in many large corporate organizations, and it is naïve to believe that network activists will not try this model. This practice will make it more difficult to evaluate formal organizational structure, and the politics contained within it. Thus, one of the most vital components to emerge from this research is that the Internet can decentralize advocacy. This is

consistent with other research that has examined the impact of the Internet on decentralizing culture, labour, and workplace activities. Additionally advocacy can be disembedded from space and time. This reinforces decentralization, as a centralized authority does not absolutely demand work to be done immediately.

As mentioned above, a decentralization network has created enormous scope to change the manner of the organization. The same process affects the process of advocacy conducted by the organization. For instance, Women'sNet used a mass petition to create a symbolic act of pressure. Mass petitions prior to the Internet required numerous contributions from volunteers in terms of time, and occasionally personal resources. Resource mobilization was therefore a critical component of advocacy and activism. Decentralization has aided activists and actions across borders, allows convergence between different organizations which have the same issues, and assists small organization in gaining greater exposure to world debates, and allowing them to contribute to these debates. While this is not a case of the *formation* of advocacy changing, it does illustrate that the *process* has undergone a change. There are many other examples that illustrate that the process of advocacy has undergone substantial changes. One can argue then that network advocacy is rather about instrumental choices and strategies as apposed to a fundamental re-formation of advocacy. As advocacy essentially is about the connection and collection of power to lobby other power collectives, can we say that the form of advocacy has changed? While connecting and collecting power with different methods, and engaging differently such as using petition lists, the core form of advocacy has not changed. Admittedly, the Internet has increased the scope of participation; this does not alter the primary form. Topographically then the use of the Internet does not alter the basic form of advocacy (that of contestation), instead it offers different methods or alternative instrumentation of advocacy.

Open standards are vital for online activism as they allow systematic connection and exchange. FLOSS principles and pressure around the entrenchment of open standards is then vital to ensure this systematic connection and exchange. While debates about the public nature of the Internet space are still ongoing, it is clear that the basing of IP on open standards ensures that this debate can go on. One can argue that open standard IP allow individuals, groups, companies and others to construct

and articulate their realities, thoughts and experiences. The intensive publishing information is based upon accessible standards creates at the very least for a base to facilitate information exchange within a set network. Therefore open standards facilitate advocacy. Consequently, open standards create opportunities for new centres of power to emerge, challenge political conceptions of space and allow the other mechanisms as discussed in Section 4.2 to surface.

The argument forwarded in this thesis was that the habitus – the site of interaction – is established by contesting multiple structures (some that reinforce, other that clash). These contestations and their outcomes directly influence individual human lives. This is termed by Giddens to be Life Politics. Returning to the structure themselves, many of them are created, enabled, supported by or destroyed by technology. Hence, technology is a critical (and often neglected) component that requires analysis. Fundamental then to structuring opportunities, technology it must be remembered is designed. Design itself has intended consequences. It has a set of values embedded within it. There is however a choice to use such technology – it is humanly controlled, even if it is used to control humans. This then, if we use Feenberg's classification table (see Table 4), is a position held by Critical Theory where there is space to contest alternative means-ends systems.

Technology is:	Autonomous	Humanly Controlled
Neutral (complete separation Of means and ends)	Determinism (e.g. modernization theory)	Instrumentalism (liberal faith in progress)
Value-laden (means form a way of life that includes ends)	Substantivism (means and ends Linked in systems)	Critical Theory (choice of alternative means-ends systems)

Table 4: Feenberg's control classification (Feenberg 2003)

Nevertheless, if considered within a contextualised social, political and economic architecture where structures contest, technology can be considered from a Substantivist position (again considered according to Feenberg's classification table). Such a position would generally reinforce Hawker's complex model (see Figure 15), however it would specifically alter it to give background context a greater role, and further would create 'nodes' of contestation framed by perception (which in turn would relation to position within a specific structure.

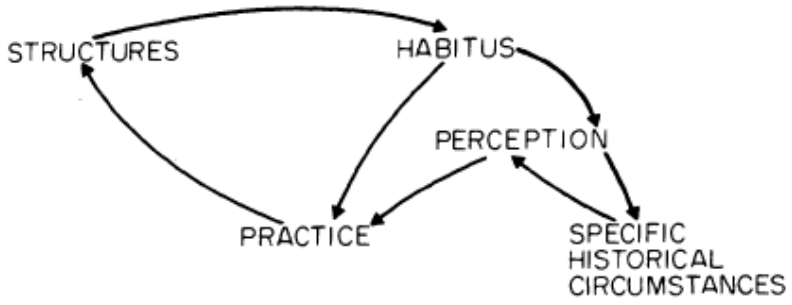


Figure 15: Hawker's more complex model of the relationship between habitus, practice, structures and the environment (Harker 1984: 121).

Civil society contests or supports existing structures in the hope that by doing so they can directly influence the Life Politics to affect change within these structures. As demonstrated by the case studies, technology is vital to undertake this task, but is subject to values and design embedded or contested within its design. This constant contest of technology while simultaneously using it for social change can best be illustrated by FLOSS technology and it advocates in attempting to lessen the digital divide.

4.4 ANALYTICAL CHALLENGES

Analytical challenges can be divided into two sections:

- Analytical challenges for governance institutions engaging with network advocacy

- Analytical challenges in determining the impact of ICT-policies on network advocacy

These are discussed below:

Analytical challenges for Governance institutions engaging with network advocacy

Advocacy networks are becoming centres of power that in their emergence create structures that contest existing and established structures such as governance institutions. With the emergence of non-institutional political engagement, it is therefore vital that existing structures and institutions have methods and the ability to engage with these new structures that have different values, or contest these existing structures. If one accepts Langman et al's (2001) position that online civil society 'purpose' is to highlight various issues and to attempt to have these issues addressed, then online civil society is not a radical alteration or reinvention of the concept of civil society, but merely the expression of political desires through a new medium.

To cope with such desires, governance institutions must be willing to receive, interpret and engage with these organizations. Additionally, they will need the technical capability to ensure that they can 'meet' or engage with such political desires. Often this might require a rethinking of governance institution procedures. For instance governance institution must be willing to embrace new digital communications technologies to foster engagement. This alone will require these institutions to alter their technology and personal procurement policies.

In addition governance institutions must be aware of the 'lifespan' and circulation of digital material. In this case consideration must be given to how communications with network advocacy could affect the governing institution at a later stage. Therefore consistency in the message, technological encryption, and the widespread circulation of the messages or engagements will help ensure that long-term engagements with these network activists do not return to harm the governance institution. Vital to this aspect of engagement is the governance institution's own information management system, and the skills required to maintain this system. Further, skills and capabilities will be required to ensure that engagements are consistent. Thus institutional memory becomes critical to ensure this consistency.

This in turn relates back to how the information management system and the institution's archive are managed.

It is not possible to isolate the governing institution from network activism, as a disengagement strategy effectively locks the institution out of the information generated by the potential engagement. By disengaging, the institution loses an outlet for public relations. Instead the institution should encourage participation and engagement. By doing so the institution increases tactical knowledge of these network activists but also could defuse some of their militancy. However, one must caution that constant engagement without change, will from the point of activists, further encourage these networks to mobilize by the network will focus attention and will construct a pre-conceived frame in which bystanders will interpret the actions of the governance institution. It is unlikely that this pre-conceived frame will be flattering for the governance institution, and will instead give bystanders a subjective view which the governing institution has no control over. These factors considered, it is better for governance instructions to have procedures, policies and personal that can cope with possible engagements by network activists.

The analytical challenge to governance institutions and to research who will study this potential field lies in the sheer scale and informal nature of network advocacy. While being very difficult to find specific evidence detailing the nature of interaction, and acknowledging that interactions can occur outside of the institutional norms it is not viable to think of either governance institutions or network advocacy as homogeneous, uniform and consistent units. Rather, and in part from the recognition of the impact of granularity, it becomes vital to conceive of how organizational components interpret and act upon and against prevailing discourses and narratives. An example here is how the APC has extrapolated 'information rights' from human rights. In this example it is also important to examine how the APC reads or inserts 'information rights' in the human rights discourse. Communicative actions theorists such as Habermas (1979) will be useful in this analysis, however there is still a disconnect between the theory of communicative action and the specific assessments made by granular organizational components during their interpretation and interaction within discourses. Compounding this disconnect is the specific nature of power and control and how its variations in manifestation influence granular (or independent) actions. The prime analytical challenge is to find methods (conceptual or methodological) to investigate how these informal interactions find expression in a

particular organization's representation and positioning relative to other factors within a political landscape. In some way this points to a 'constellation' approach which 'measures' or positions an organization relative to other organizations and forces, whist acknowledges the particular perspective which frames such tension through their constellational positioning. Such a conception would position communicative action as structuring the relative positions of each granular component. However as mentioned such an approach is not yet analytically sound and requires further development.

Analytical challenges in determining the impact of ICT-policies on network advocacy

Civil society is a critical element in creating stable societies. Civil society should therefore be encouraged and be given a secured space in which to operate. As Internet civil society's space is dictated by code institutions which determine ICT policies and establish structures for interaction, which while often having the mindset of regulation, should be orientated towards a positive liberal approach towards space that secures the ability to conduct actions. Pragmatically ICT policies should entrench open standards by securing their pubic domain rights. This strategy would avoid the 'regulation route' which could potentially be viewed as censorship or the attacks on privacy.

As these three case studies illustrate by advocating for policy change, ICT policy extends beyond mere 'openness' and code and relates to complex structural contestation regarding configuration. Institutions, if moving towards digitalization, must take into consideration both this complex structure and the gap between themselves and those that suffer from the digital divide. If these institutions do not find mechanisms to engage with the entire public body then this limits opportunities for civic engagement. A strategy to do so must aim at universal inclusively instead of targeting specific populations in order to include them. While education, age, gender, location, economic circumstances and culture all interweave to determine the current degree of benefit of inclusion, ICT policies will affect the entire population. Thus while policy makers should not ignore structural inequalities, or efforts to minimise them, they should focus on creating a positive liberal framework which allows

individuals the scope and agency to access ICT in order to best maximize conditions that they can change and alter their Life Politics.

The prime analytical challenge is to determine how ICT policies will affect network advocacy and online civil society. This requires an approach which is civil society centric and seeks to determine if policies will increase the scope for civil society to interact, or if their adoption will decrease that scope. Scope for action must include efficacy – something which was not focused on in this thesis – but most importantly must push beyond the visible and explore the undercurrents of control over infrastructure, its maintenance and the political environment in which it operates. Additionally researchers must be aware that many of the infrastructural components – such as transnational cables – operate under international laws which are based upon subscription and those details of these policies, locations and treaties transcend local national environments. Thus policy research must examine the underlying patchwork of infrastructural networks and their policies as opposed to national ICT policies, and the first in essence allows the second.

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