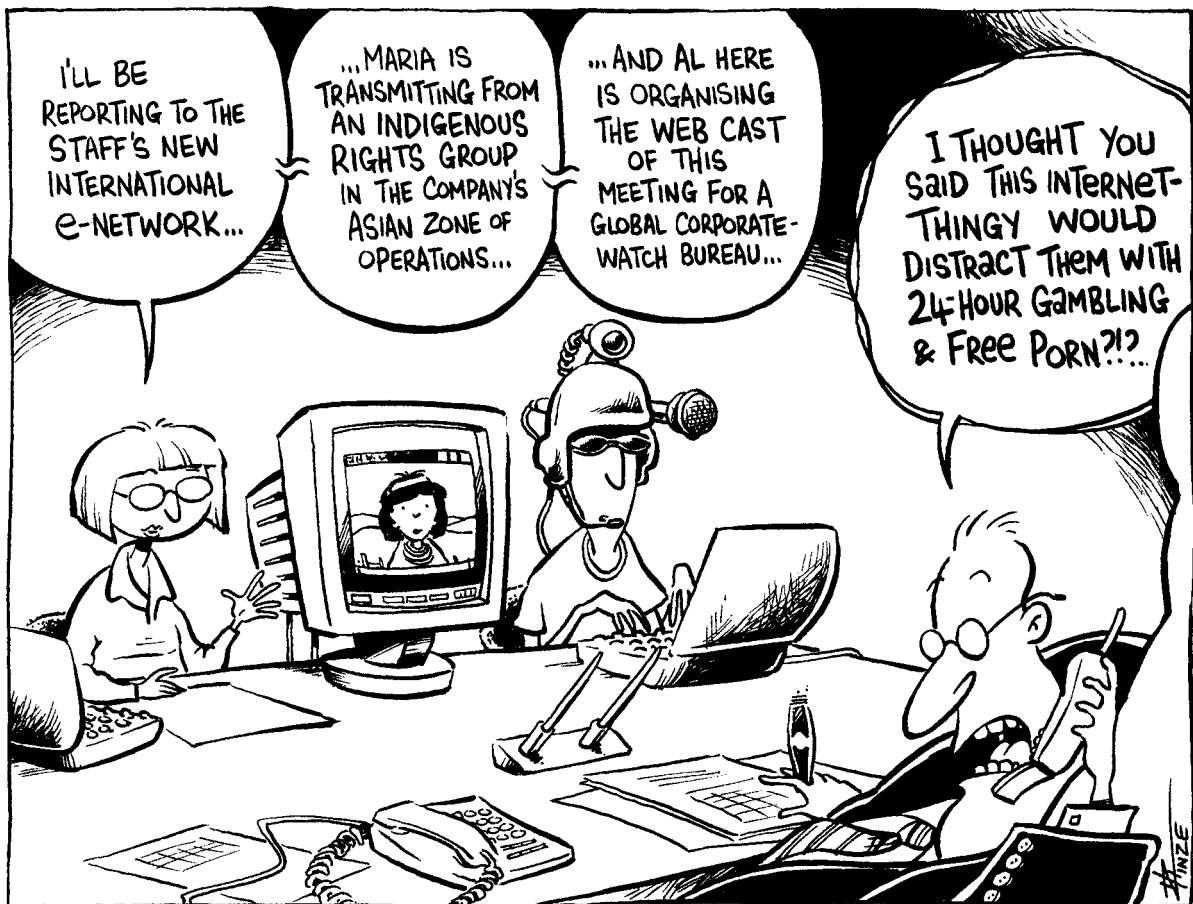


# Cyberprotest: Environmental Activism Online

*Jenny Pickerill, 2003*

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# Abbreviations

<b>ATA</b>	Alternative Technology Association
<b>BNFL</b>	British National Fuels Limited
<b>BNRR</b>	Birmingham North Relief Road
<b>CAE</b>	Critical Art Ensemble
<b>CAT</b>	Centre for Alternative Technology
<b>CB</b>	Citizen Band Radio
<b>CGI</b>	Common Graphics Interface - required for internet web site interactivity.
<b>CMC</b>	Computer Mediated Communication
<b>CRI</b>	Chemical Release Inventory
<b>DDOS</b>	Distributed Denial of Service – a type of on-line tactic whereby websites are flooded with requests preventing genuine visitors using the services.
<b>DIY</b>	Do-It-Yourself
<b>EA</b>	Environment Agency
<b>ECD</b>	Electronic Civil Disobedience
<b>EDT</b>	Electronic Disturbance Theater - A US based activist group who undertook ECD on the Mexican government in support of the Zapatistas.
<b>EF!</b>	Earth First! - A radical environmental direct action network of individuals.
<b>EF! AU</b>	Earth First! Action Update - The Earth First! UK monthly newsletter which rounds up all the actions which have recently taken place.
<b>EFF</b>	Electronic Frontier Foundation
<b>EZLN</b>	Ejercito Zapatista Liberacion National - Formed an uprising against the Mexican Government in the state of Chiapas to raise their concerns about poverty, land rights, justice and exploitation in 1994.
<b>FoE</b>	Friends of the Earth
<b>FTP</b>	File Transfer Protocol
<b>GandALF</b>	Green Anarchist and Animal Liberation Front - the trial of Green Anarchist and Animal Liberation Front editors for conspiracy to incite violence. The state had brought charges against 3 editors of Green Anarchist magazine (GA) and against the Animal Liberation Front (ALF) Supporters group newsletter (hence ‘GA’ and ‘ALF’ produces GandALF).
<b>GIS</b>	Geographical Information Systems
<b>GMO</b>	Genetically Modified Organism
<b>GSN</b>	Green Student Network
<b>GTAC</b>	Government Technical Assistance Centre
<b>GUI</b>	Graphical User Interface
<b>HSA</b>	Hunt Saboteurs Association
<b>HTML</b>	Hyper Text Markup Language – the basic language used to write web pages
<b>ICTs</b>	Information Communication Technologies
<b>ISP</b>	Internet Service Provider
<b>IT</b>	Information Technology
<b>J18</b>	International demonstrations held on June 18 <sup>th</sup> 1999
<b>KCC</b>	Kent County Council
<b>MAI</b>	Multi-Lateral Agreement on Investment
<b>MNC</b>	Multi-National Corporation
<b>MO</b>	Mobile Office

<b>N30</b>	The November 30 <sup>th</sup> anti-globalisation demonstrations in 1999 which occurred predominantly in Seattle.
<b>NGO</b>	Non Government Organisation
<b>NSM</b>	New Social Movement
<b>NVDA</b>	Non-Violent Direct Action
<b>RCC</b>	Regional Campaign Coordinator (for Friends of the Earth)
<b>RIPA</b>	Regulation of Investigatory Powers Act
<b>RTS</b>	Reclaim the Streets
<b>SEN</b>	Student Environmental Network
<b>SMO</b>	Social Movement Organisation
<b>SWP</b>	Socialist Workers Party
<b>URL</b>	Uniform Resource Locator – address for website location
<b>WTO</b>	World Trade Organisation

## Preface and acknowledgements

Researching such a contemporary and dynamic topic as internet activism was always going to be problematic. When I began this project in 1997 many questioned the relevance or utility of the internet. At the time there were few empirical investigations into its use, and fewer still which incorporated a range of case studies. This book aims to fill that gap. In doing so it is historically situated in the late 1990s in Britain, but its themes are universal and thus I hope its assertions are of a wider relevance.

This book would not have been possible without the time, energy and thoughtfulness of over eighty interviewees from a broad range of environmental groups. In addition to their time, many provided group literature, access to meetings and contacts, facilitated my participant observation in their projects, and gave feedback on my analysis. They also provided the enthusiasm and inspiration without which this book would not have been completed. I am indebted to them all.

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Jenny Pickerill

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## Introduction

On June 18<sup>th</sup>, 1999, in the City of London, a protest occurred which centred around a 'Carnival Against Capitalism'. Linked to a global day of action aimed at the banking and financial centres of the world, the protest had no clear leaders, spokesperson or discernable plan. Despite the majority of participants remaining peaceful, violence erupted and caught the attention of Britain's media.

The mainstream media coverage over the ensuing days was dominated by images of riot police clashing with protesters, injured civilians and the trail of destruction left behind. However, newspapers also focused on the role of the internet. Headlines from both the broadsheet and tabloid newspapers included; 'A riot from cyberspace', 'Internet message sets off a rampage', and 'Virtual chaos baffles police'. Journalists portrayed the J18 demonstrations as a 'new departure for protest' (The Express, 1999, p.10). The defining difference was use of the internet which enabled activists to plan, plot and co-ordinate actions with low costs, anonymity (from Police detection), and speed. At the same time they were apparently able to reach a wider audience of potential participants than ever before and thus able to spark a 'rampage'.

The internet is rapidly permeating the everyday lives of many British citizens. By 2002, almost a third (nineteen million) of the British population had access to the internet, with fifteen million of these having direct access from home (Which?Online, 2002). The internet is widely available at public libraries, cyber-cafes (of which there is usually at least one in each city or large town), at Universities and colleges, and increasingly in schools (Bingham *et al.*, 2001).

The politics of cyberspace is of importance both for the future use of computer mediated communication<sup>1</sup> (CMC) and within traditional political arenas, society and commerce. As illustrated with the J18 protests, as political activists incorporate CMC into their repertoire this will influence not only their own campaigning abilities, but the responses required by governments and security forces.

Technological changes in communication have long been recognised as important to the development of cohesion between dispersed individuals and within activist movements. Transport innovation, as well as media innovations such as radio, film, television, and photocopying, have both enabled and shaped the agendas and organisation of social movements and allowed individuals with similar views to come together. With the advance of CMC, there have been numerous and passionate polemics about the implications of the technologies for society. A key debate concerns the notion of electronic or 'cyberdemocracy' by which CMC would enable the inclusion of a greater variety of often marginalised voices strengthening the democratic process. Kellner (1999) argues that CMC has significant potential to aid the development of: 'a radical democratic technopolitics that will use new technologies to advance the interests of oppositional social groups and movements that have been excluded from mainstream media and political debate' (p.101). The controversy over the advancement of this technopolitics in the contested terrain of cyberspace, and its relation to existing political structures, provides the focus of this book. Much of the public debate over the implications of CMC remains utopian or dystopian. Both these visions tend to be futuristic, simplistic and only weakly based on empirical evidence. They fail to engage with the complexities of CMC use. Thus there is a need for empirical analysis which would explore in detail the ways CMC is actually politically employed.

Within Britain there are many different political groups which have a presence on and utilise CMC, including for example, members of the far right, human rights groups, religious supporters and environmental activists. Environmental activists were chosen as the focus of this work for several reasons. The importance of the environment has been acknowledged by public bodies at the national, regional and international levels. The environmental movement in Britain is large, varied and heterogeneous. It includes several large and wealthy non governmental organisations (NGOs) (for example Friends of the Earth and Greenpeace), and also active and visible direct action groups (such as Earth First! and Reclaim the Streets). There has been much debate about groups who undertake non-violent direct action (NVDA) to prevent environmental destruction through, for example, road building (such as Twyford Down 1992, Newbury 1995-6), the planting of genetically modified crops (Genetix Snowball demonstrations) or airport extensions (Manchester Airport 1998). There is a need to understand these visible and dynamic groups and relate them to the wider arena of British environmental politics and to other more established environmental lobbying associations (Doherty, 2002). Moreover, many environmental activists use CMC, have been doing so for years and were some of the first political groups on the web. This fusion of high technology use and environmental activism at first seems paradoxical because environmental political philosophy has been characterised by a scepticism about the evolution of technological society. This tension adds a further dimension of interest to the use of CMC by this sector of political activists.

The purpose of this book is to examine the relationship between the strategies of environmental activism movements in Britain and their use of CMC. In other words to explore how environmental activists negotiate the tensions and embrace the opportunities of CMC, and to analyse the consequences of their actions for the forms and processes of environmental politics. It serves as a disjuncture from some broader critiques of the implications of CMC on society as a whole (see for example, Slevin, 2000). Instead it concentrates on unpacking what CMC specifically means for activists engaged in social change. Within this broad aim there are three specific tenets. First, to evaluate how CMC provides opportunities for political expression and mobilisation. Second, to examine whether CMC use has different implications for established environmental lobbying organisations as opposed to the non-hierarchical fluid networks of direct action groups, and thus what challenges the technology poses for activism. Finally, to elucidate the influence of CMC on campaign strategies and consequently on business, government and regulatory responses to environmental activism.

### **Environmentalists' use of CMC**

The Internet has become a major organizing and mobilizing tool for environmentalists around the world, raising people's consciousness about alternative ways of living, and building the political force to make it happen. (Castells, 2001, p.280)

Although there is a growing body of work documenting political activists use of CMC (see for example, Walch, 1999; Meikle, 2002), there has been little specific work on the possible implications of CMC on environmental movements. Several authors have identified that increased information exchange and communication resulting in new social networks and new space for communication could have profound implications for all components of a social movement (Rheingold, 1994). CMC could enable more diverse associations than those in place-based communities and reduce the costs of coordinating collective action. These properties have improved campaigning ability of environmental groups increasing

international collaboration and easing internal communication problems (Zelweiro, 1998; O'Lear, 1997). In particular, White (1999) argued that CMC use was facilitating the creation of a more connected movement and one within which individuals not affiliated to particular groups were able to take on greater roles than previously. Activists would also be able to bypass traditional hierarchies, such as that of the mainstream media, to widen the distribution of their ideas to a broader audience (Warf and Grimes, 1997; Atton, 2000).

These studies have a common emphasis upon deducing international collaboration through CMC use and many have identified CMC use as an increasingly essential component of political activism (see Doherty, 1999a; Chesters, 2000a; Redden, 2001; Terranova, 2001). However, few have engaged in in-depth case study examinations that might illuminate some of the complexity of CMC use, and in particular the implications of CMC use for groups capacity to enact environmental change through more effective organising, tactics and mobilisation.

## Research in action

Research into the implications of CMC use has moved on from the initial phase of optimistic euphoria versus dystopia paradox, to the cynical (yet not necessarily pessimistic) works that concentrate on highlighting the specific constraints and limitations of this technology. Many technologies have, with time, been treated similarly, from the telegraph to the television. First there is excitement and utopia tinged with gloomy dystopianists, and then criticism and complexity. The study of technology and its relations to society has received significant academic comment. However, the role of agency is often ignored - the basic detailed questions of how and why people use technology to pursue their goals and how this use leads them to transform other aspects of their lives.

As technology develops and becomes more integrated into individuals' daily lives they are able to reflect more incisively upon it and move beyond the utopian/ dystopian discourse. Current literature evaluating CMC is able to interrogate examples to explore how CMC is actually used (as opposed to the mere speculation and 'personal experience' that had littered the early field of the internet studies) and what problems are involved. Yet much research stops at this point and fails to examine how these constraints and opportunities are *negotiated* and *embraced* by users. Furthermore, there is a distinct lack of research that considers how CMC is used within specific social contexts.

Such questions can only be answered through detailed empirical examination of the ways in which specific technologies are used by particular population cohorts. It is only through such close examination that the dominant ways of interpreting technology use (traditionally juxtaposed between utopic and dystopic discourse) can be challenged and the actual complexities, viewing technological change as a *social process* and CMC as a media which is constructed through use, be brought to light (Edwards, 1995).

Environmentalists' use of CMC is influenced by a host of circumstances including their attitude towards technology, their chosen ideology, group dynamic, skills, perception of surveillance, experience of counterstrategy from opponents and their ability to innovate tactics. All these components need to be examined in any consideration of their use of CMC as they all intertwine to produce the 'outcome' seen as the surface of the environmental movement - the resulting demonstrations and actions, the media stories of 'riots of cyberspace' or the governments moves to increase surveillance of insurgent use of CMC. The ways in which environmentalists negotiate around the constraints they are faced with, and

perhaps their failure to address some adequately, is crucial in facilitating an insightful understanding of the way in which CMC is used, and shaped by, political activists.

There are several approaches that can be taken to researching CMC use: in-depth interviewing, the observation of technology use, or participation through on-line interaction (Kendall, 1999). Observation of on-line interaction through email discussion lists or attempts to reach the on-line audience of websites, as well as general integration into on-line activities and regular observation of websites is essential to provide an understanding of CMC use (Mittra and Cohen, 1999). At the same time these methods alone provide little context with which to place CMC use into the wider background of an individual's activities. Only through in-depth interviews or observation of the actual interface between activists and their computers can all influences upon their use be examined adequately. Moreover, to examine the nexus of inter-relations between environmentalists and CMC a case study approach is the most appropriate. This enables consideration of all the factors that may influence an individual's use of the technology, including a group's organisational structure, facilities and available skills.

This book is based on analysis of several case studies encompassing a variety of British groups and environmental campaigns. This was in order to examine the differences in CMC use between (and within) them and be able to reflect upon the cause of these differences. To enable this, groups were selected who employed dissimilar organisational structures, were composed of discordant population cohorts, worked at differing scales (local to international), had alternative political aims, and were at contrasting stages of CMC implementation. Thus there was an empirical emphasis on multifarious types of environmental bodies (such as direct-action groups, the conventional lobby, and student activists). In order to ensure that a broad perspective of CMC use was attained (and any significant practises not ignored) individuals who were not associated with the case studies were also contacted.

The concept of an 'environmental activist' is defined quite broadly within this book. The term represents far more than the limited stereotype which denotes short term physical action. Instead an 'activist' is one who takes any form of action, ranging from direct physical acts to minute lifestyle adjustments, and also includes those who simply voice their concern or opinions through letter writing or discussion (such as an email discussion group) (Norris, 2002). As Maxey suggests, 'activism is not something that can be clearly bounded, marked as separate from everyday life' (1999, p.199).

Research often also raises ethical concerns (Katz, 1994). Unequal power relations and the risk of appropriating the researched were to some extent mitigated through participation in some of the case studies and the environmental movement, and through careful dissemination of results (Kobayashi, 1994; Opie, 1992). Although academics hold a specific location in the social field, empathy, membership and participation in the processes being researched complicate this location. Furthermore, involvement in environmental activism was substantially a consequence of undertaking the research, which meant that as a researcher I had to deal with the 'politics of integration' (Fuller, 1999). This enabled access to many who were not interested in talking to academics and facilitated a prolonged engagement with most of the case studies (c.f. Maxey, 1999). Without this process of integration it is doubtful that access to several crucial components of the dataset would have been possible, and thus that they research would not have been as comprehensive. Consequently this book is not written from within the movement, but from a level of involvement in some aspects of environmental activism.



Seven case studies were chosen because each represented a different style of organisation, campaign, size, aims and funding. They were: Friends of the Earth (FoE) UK; the Centre for Alternative Technology (CAT); Green Student Network (GSN); McSpotlight; SchNEWS; Save Westwood, Lyminge Forest campaign; and the Mobile Office (MO). They were, respectively, an international non government organisation, an environmental centre, an email based network, a campaign explicitly structured around the internet, a weekly environmental and social justice newsletter, an on-site autonomous protest and an office in a van which has worked on several protest camps. A balance was sought between choosing case studies which were significant (in size or notoriety) and those which represented differing aspects of the environmental movement. Thus this selection combines infamous cornerstones of the British environmental movement (such as FoE and CAT) with those of more transient notoriety (such as McSpotlight) and with lesser known groups such as GSN, MO and the Save Westwood, Lyminge Forest campaign. Essentially, despite the inclusion of FoE and CAT, most of these groups are concerned with radical political change as opposed to reformist demands.

Due to the rapidly changing nature of the technology research had to be situated within a specific time frame, thus a snapshot was taken of CMC use between June 1997 and June 1999 and this is the time period referred to throughout the book. Participation was possible with some case studies, while with others access was restricted to interviewing individuals.

Informal, in-depth interviews were chosen as the cornerstone of the research as they provided an environment where the interviewee could speak freely about and around the topic of CMC use<sup>2</sup>. Overall eighty interviews were conducted<sup>3</sup> (sixty five within case studies, fifteen others<sup>4</sup>). For each case study between three and fourteen interviews were conducted with individual members or staff<sup>5</sup>. One of the aims of the book was to enable activists' voices to be heard and for them to speak for themselves about the value of CMC and the challenges its' use poses. Thus, their quotes are relied upon to provide understandings of their experiences as direct participants in the social processes of CMC use.

It also became appropriate to contact corporate and government bodies, often the adversaries of environmentalists, to ascertain their response to activists' use of CMC often to target their specific companies. The aim was to incorporate a broad range of the targets of the case studies. Thirteen companies and three government agencies were contacted via post, email or phone. Consequently, government responses to environmental activists use of CMC were ascertained through interviews with the Environment Agency, Kent County Council and correspondence with the Metropolitan Police. Corporate responses were restricted to four email responses to the formal letter requesting their opinions, and two interviews with Shell and Nestle. Other corporate bodies declined to be involved in the research.

To set the context for the use of the case study groups and their participants throughout the book, they shall be introduced here. A brief background of their on-line operations also aids understandings of the detailed use discussed later in respective chapters.

The *Centre for Alternative Technology* (CAT) is an international environmental visitor centre near Machynlleth, Wales. The aim of the centre is to 'inspire, inform and enable society to move towards a sustainable future' (CAT, 1997b). CAT attempt to achieve this by experimenting and educating through living example. In particular CAT prove that it is possible to live using renewable forms of energy generated by water, wind and sun. The majority of the power on site is derived from renewable sources – wind, sun and rain (CAT, 1997a). The site contains a number of visitor attractions such as the water powered cliff

railway, organic gardens, displays illustrating wave, solar and wind power, self build houses and compost toilets.

The CAT website ([www.cat.org.uk](http://www.cat.org.uk)) was first launched in 1995, and has been re-launched several times since. CAT utilise CMC as an advert for the Centre and to encourage visitors. It is also used as a tool to provide access to ideas about alternative technology to those who are unable to visit the Centre (such as tip sheets about using sustainable technologies). The website is also used to answer many of the most frequently asked questions about alternative technology, deflecting work away from the (sometimes overstretched) information centre. CAT has developed several innovative features on their website – a virtual tour, on-line shopping service, and the Alternative Technology Association Secret Garden. The website has been constructed and influenced by a variety of people at CAT, but it owes much to Martin Donnelly, a long term volunteer. The construction and maintenance of CAT's website has been achieved without any funding. The website has relied upon the use of free servers, initially by courtesy of FoE, and then IIP (a multimedia company in Swansea) and the work on the site performed for free by volunteers (Anon, 1998d). Access to email and the internet has been somewhat *ad-hoc* at CAT. Each department has organised their own access and consequently many have used different ISPs, accessing them via their personal modems. Due to a lack of resources not all staff had access and CAT did not have an intranet.

*Friends of the Earth* (FoE) UK is one of the biggest and most influential of the UK non-governmental environmental groups (Rawcliffe, 1998). Although FoE UK's perspective is rooted in an ideology that radical political and social changes are required in order to avert further environmental destruction, its' choice of aims and tactics prevent it from being a radical environmental group (Wapner, 1995; McCormick, 1995; Lowe and Goyder, 1983). FoE's aspiration to appear professional can conflict with its attempts to resist the forces of institutionalisation and maintain an element of informality (Rawcliffe, 1998). FoE has had to respond to the tension between the centralising forces of UK politics and the decentralising demands of local activism by developing a regional structure comprised of elected regional board members, and eight regional FoE offices (Maynard, 1998). FoE's ability to adjust its tactical style rapidly has frequently caught adversaries by surprise. Though it supports the notion of direct action it rarely actively takes part (Schwarz, 1994). Initially, FoE began as a confrontational group who would 'wage an all out war' (Blair, 1971, p.326) on those causing environmental degradation, now it is perceived as less confrontational and more inclined to use its discreet political influence.

FoE launched their website ([www.foe.co.uk](http://www.foe.co.uk)) and email system in December 1994 and claimed to be the 'first environmental campaigning organisation with a presence on the Internet' (Pipes, 1996, p.63). The website contains several hundred pages of information about campaigns, publications, press releases, and how to join. FoE also employed a full time web producer too co-ordinate the website and another to co-ordinate the intranet.

The *Green Student Network*<sup>6</sup> (GSN) was a network of students from British Universities who were interested in environmental issues. Its purpose was to exchange information and co-ordinate campaigns. The email network for GSN was set up 1992 and the website (no longer available) was established 1995. It contained information about the purpose and structure of GSN, summaries of past gatherings, copies of newsletters and details of how to join the email discussion list. In many ways the email list appears to be the only aspect of GSN that remained functioning into the new millennium. The number of participants has varied from 120 in 1995, 119 in January 1998 dropping to only sixty seven in January 2000. Its function also changed from being an email discussion groups to being more

information based with many of the users complaining that GSN was not a particularly dynamic list in terms of its discussions.

For GSN, CMC appears to be vital to its survival, as it is the main avenue through which its participants communicate. As GSN is not a cohesive group (or by late 1999 anything more than a discussion list with a fluid membership) then data about the network represents a collection of individuals who are involved in a variety of projects, groups and campaigns who may have nothing in common other than that they subscribe to the same email discussion list. Thus rather than examine GSN as a group with collective aims, ideals and policy, the network is probed as to why and how these individuals are part of the network, and why and in what ways they use CMC for it and their other activities. Unlike many of the other case studies (where there is a common goal or project), GSN acts as a node where individuals with a diversity of views and aims can interact and discuss environmental activism.

Protesters occupied *Westwood, Lyminge Forest*, in East Kent, in March 1997 to prevent its sale to Rank for a holiday complex development. The activists' occupation was in support of the local community action group who had fought the sale of the wood for several years previously. Opponents to the development objected to the potential scale of environmental damage, loss of important wildlife, noise and light disturbance and increased air pollution in the area (Greensword, 1997; Parsons, 1997). By the end of 1999 most protesters had left the forest and were claiming victory as Rank's planning permission expired.

The campaign has had several websites and there have been requests for support and eviction alerts sent out over a variety of email networks. Only one of these sites (<http://westwood.enviroweb.org>) was under the direct control of the on-site protesters which had information about why the development needed to be prevented, the local environment, how the reader could help, a wish list, map, Ranks' plans, a discussion of sustainability, the use of alternative energy sources and the practise of permaculture, a links page, a contacts page and a form to fill in and send to their chairman in protest. Within this protest only a few individuals actually had access to CMC and influence upon the website. CMC was used to provide information to other activists and sympathetic individuals in order to encourage them to visit the forest in person, give their support and to generate interest at a national and international level.

The *McSpotlight* website ([www.mcspotlight.org](http://www.mcspotlight.org)) was launched on 16<sup>th</sup> February 1996 in support of the McLibel defendants who were being sued by McDonalds for allegedly distributing libellous material (Mills, 1997). McSpotlight was just one aspect of a varied strategy co-ordinated by the McLibel Support Campaign. This campaign was initiated in 1990 (after writs were served by McDonalds) and included mass leafleting, media focus, pickets outside McDonalds' stores and international days of action, with links to residents' opposition groups and disgruntled McDonalds' workers. The website supported the case of the defendants, posted up the original leaflet that was under attack, and maintained extensive coverage of the three year long trial.

The site quickly gained international notoriety and received a huge number of hits, was often referred to in Internet magazines as an example of a great activist site, and earned significant mainstream media attention, which itself raised the profile of the McLibel trial. The anti-McDonalds campaign had been in existence ten years in the UK prior to the website and means other than CMC had been used to distribute the information (such as a paper based mailing list). However, the website, and the media attention it received, prevented McDonalds from silencing its critics, raised the profile of the McLibel case and illustrated the potential of

CMC for activist campaigning. Such publication was technically breaking British law, but as the site was hosted in the Netherlands the legal situation was unclear, providing a loop hole which McSpotlight utilised.

The *Mobile Office* (MO) was set up by activists after the A30 protests at Fairmile, Fort Trollheim and Allercombe, in Devon early in 1997. It was a mobile office, a collection of equipment which fits into a van and can be stationed on site at protest camps (eradicating the need to travel long distances to the nearest telephone or town). It offered use of a computer, printer, photocopier, TV and video, telephone, CBs, internet access, digital camera, can act as a press office and as a resource base. It has been used in several direct action site occupations – such as during the anti-quarry action at Teigngrace, Devon in August 1997 and in the campaign to try and save 56 poplar trees in Canbury Gardens, Kingston-upon-Thames, London, in March 1998.

MO had two laptops and one desktop computer. Internet access from the MO van was set up early in 1998 using a modem and a mobile telephone to connect the laptop. Email was then used directly from the office and the internet could be surfed (although mobile telephone costs were quite prohibitive), but the MO and campaign websites were not updated from the van directly. HTML scripts were emailed to another activist to load the new pages onto the website. The internet was used by the MO as an information source, and email to receive digital versions of activists' newsletters, as well as to keep in contact with other activists (nationally and internationally) and the 'mainstream'<sup>7</sup>. CMC was also used to send press release faxes digitally (including using photographs from a digital camera) and to act as an additional media through which they can publish and distribute their flyers and information. MO's activities appeared to diminish after 2000.

Lastly, *SchNEWS* is a weekly newsletter which is produced every Friday by Justice? a direct action collective based in Brighton. It is 'a scrappy bit of A4 with a no advertising – no compromise policy' (Anon, 1999b) which began by covering the Criminal Justice Act in 1994 and covers a range of environmental and social justice issues. SchNEWS typically consists of a main cover story about a particular event or political item, shorter stories, a round-up of weekly news, forthcoming events and 'crap' arrest of the week. They attempt to include stories from the local (Brighton and south east), national and international arenas. In November 1999 there were 500 subscribers to the paper copy, plus 2,000 copies distributed to various places around Brighton, but up to as many as 4,000 copies are printed each week (Anon, 1999b).

SchNEWS first began using CMC in 1996, launching a basic website and email. The website ([www.schnews.org.uk](http://www.schnews.org.uk)) was re-designed and re-launched in 1998. SchNEWS used internet and email to ease and widen its distribution network, as a space for additional material and links, and to source stories (especially international issues). Thus SchNEWS uses CMC to help them prepare the document itself, distribute it, and archive it. In April 1998, 500 people were subscribed to the email service of SchNEWS, by the end of 1999 this had grown to 3,000, with fifteen people joining a day thus becoming equivalent to hardcopy distribution. The SchNEWS website has five sections; the latest SchNEWS, additional articles, archive, past copies of SchNEWS, a diary of forthcoming events, and a contacts database.

## **Mapping the implications of internet activism**

Environmentalists' activities on-line provide an opportunity to examine the way in which social movement actors can utilise new technologies. Environmentalists are engaged in a struggle over cyberspace, a practical resistance to ensure that CMC can be used to their

advantage. This struggle is a reflection of the wider discord surrounding the use of new technologies and represents a microcosm of the broader debates about the future of technopolitics and society. The ways in which environmental activists overcome the barriers and utilise these opportunities illustrates the complex ways in which cyberspace is used as a site (and form) of resistance.

This book begins, in chapter one, by outlining a useful theoretical framework by which activists' use of CMC can be explored. By delineating what constitute the politics of cyberspace and alternative approaches to the study of political activism, social movement perspectives are illustrated to be a productive framework. Using this several implications of CMC use for activists are proposed. The rest of the book is structured around the analysis of these implications. Each chapter explores one of the five broad themes: the paradox of technology use, access, mobilisation, tactics and surveillance.

First, despite a recognition of the tensions between technology and environmentalists, their labelling as Luddites, and work on how other groups have shunned CMC use, there has been little consideration of how environmentalists have used CMC while retaining their critical stance on the use of advanced technology. This tension appears to be a contradiction for environmentalists between their ideologies and actual practice. The ways in which this tension has been resolved, or whether they even perceive it as problematic, is crucial to understanding the way in which they utilise CMC. Thus, chapter two, explores the ways in which environmental activists view and navigate this paradox and examines the consequences of this negotiation of techno-environmentalism.

Second, access is of integral importance to any consideration of CMC use, as without it not only is its use restricted, but its influence upon others also curtailed. There has been a general push within British society to increase access to CMC (Wills, 1999). This has included the increase of public access points at libraries and cafes, and provision at schools, colleges and places of work. There remain, however, stark differences in access determined by locality, age, income, gender and social class (Jordan, 1999a; Walch, 1999). Access to CMC is particularly important to environmentalists who appear to espouse the increased provision of information and participation of individuals in decision making. Thus, chapter three, examines how environmentalists' attitude towards inclusion is translated into their use of CMC and therefore to explore the ways in which they have secured access to CMC, the problems they have occurred and how they have tackled them. Furthermore, the effects of organisational form on CMC use, and the effects of CMC upon organisational forms are examined.

Third, the use of CMC for the mobilisation of participation could fundamentally alter environmentalists' capacity to protest. As CMC enables an international audience to be reached, at relatively low cost, and at speed, activists can co-ordinate global wide protests or share ideas and solutions with international activists. Chapter four examines the use of CMC to mobilise participation in, and facilitate the networking of, environmental activism. This includes an examination of the impediments of using CMC for mobilisation and networking – such as the prerequisite of access, the problems of dealing with a diffuse audience, the poverty of on-line engagements and the privileging of word of mouth as the most valued form of communication.

Fourth, in spite of the tensions of using high technology, access limitations and threats from surveillance and regulation, CMC use by environmentalists still holds much potential for extending the repertoire of action. Despite significant work on action repertoires and, separately, cyberactivism, there has been little consideration of how CMC influence

repertoires of action. Furthermore, CMC use could irrevocably alter the ways in which alternative media are produced and disseminated. Chapter five explores the ways environmentalists could extend their use of the technology to developing CMC as a tool of protest. This includes the use of CMC as a substitution for a reliance upon mainstream media, and thus for the production of a digital alternative media.

Finally, environmentalists, especially those who undertake radical direct action, have at times had an acrimonious relationship with state and corporate adversaries (Rowell, 1996; Beder, 1997). The examination of how environmentalists perceive and react to the threat of surveillance using CMC is important as it poises a significant restriction on the way in which environmentalists might use CMC. Chapter six examines environmental activists' understandings of, and reactions to, on-line surveillance and counterstrategy and the implications these threats have upon the perceptions of CMC as a space for activism. Within this chapter the response of the state and corporate bodies to environmentalists' CMC use is also documented. Thus the implications of these tensions upon the perception of CMC as a new space for activism are considered.

This book employs an ethnographical focus to enable the voices and views of activists to be heard<sup>8</sup>. It attempts to interrogate the dilemmas and implications of environmentalists' use of CMC. This involves the examination of many of the key issues of activism such as participation, hierarchies and forms of organising, tactics, and opponent response. The contribution of CMC to all of these may not only help resolve existing problems, but may illuminate continuing areas of tension. In all, this book aims to contribute to the understanding of environmental movements as heterogeneous, influential and innovative. Furthermore, it aims to contribute to the unfinished debates about the value and challenges of internet activism.

# 1: Politics, social movements and technology

According to Resnick, the politics of cyberspace can be conceptualised in three distinct ways:- *politics within cyberspace* - involving the internal operation of cyberspace and those who are on-line; *politics which impacts upon cyberspace* – the policies and legislation which affects cyberspace; and *political uses of cyberspace* – how the technology is used to affect political life off-line (Resnick, 1998). All these aspects need to be taken into consideration for they are all intertwined and impact upon environmentalists' use of the technology<sup>9</sup>.

As Froehling (1997) notes, cyberspace alters the nature of all politics: 'Its very existence changes human relations inside and outside the internet through the flow of information, whether people worldwide are directly connected or not' (p.293). Consequently, analysis needs to go beyond studying only those who are on-line (c.f. Hill and Hughes, 1998) and include a broad examination of all the influences upon, and of, the politics of cyberspace. The use of CMC might contribute to the formation of new forms and processes of politics or cyberspace itself may become normalised, its politics merely reflecting those off-line. It is particularly salient that the importance of on-line interactions are examined for their off-line implications because environmentalists are rooted in a concern for the off-line - the earth. Moreover, it is in this interaction that the greatest potential of CMC lies.

In order to examine the political components identified by Resnick and thus the different influences upon activists' use of CMC, a broad understanding of the pressures upon, and processes of, environmental activism is required. In particular this approach needs to be applicable to the specificity of the British environmental scene. Social movement perspectives provide a useful framework to inform and shape such analysis, and the justification for such a choice is explored later in the chapter.

Furthermore, the implications of technological change are not predetermined. Technology is of our own making and the use to which we put it a result of social (and to some extent political) processes. Based on this understanding of technology the political uses of CMC can be more accurately explored than if a less constructionist approach was adopted. This perspective and its implications will also be explored in relation to other approaches later in the chapter.

Using these understandings of activist and technological processes combined with existing research on internet activism a number of assertions can be made about the likely implications of CMC use for environmentalists. These claims are then used to shape the analysis throughout the book, with theoretical suggestions being supported by the empirical evidence in respective chapters. Thus, the primary theme of this chapter is to outline the most suitable theoretical framework for analysis of environmentalists' activities and establish a coherent understanding of technological change. These theoretical underpinnings are then used for the second aim of the chapter – to identify possible implications of CMC use for environmental activists.

## Understanding political activism

Social movement theories exist to explain the formation, nature and workings of social movements and explore the how and the why of their actions and their affect upon civil society. A social movement is more than just an interest group or one organisation, it incorporates a whole range of networks into a specific social dynamic. In contrast to such an

approach the pressure (or interest) group perspective until recently was dominant in analyses of environmental movements (Rüdig *et al.*, 1991b). This approach categorised environmental groups' role as applying pressure upon the political system and measured their success by their inclusion into the formal political structure (Baggott, 1995; Grant, 1989). However, this approach focuses upon examining the relationship between groups and the formal political system. It is therefore less able to examine the relevance of the 'subterranean networks' (Melucci, 1989, p.41) of environmental activists which can motivate and give meaning to individuals' political activism.

Finally, in the 1990s the Do-It-Yourself (DIY) culture perspective emerged. The term 'DIY Culture' was coined to represent an approach which examines the ways in which politics became merged with culture to produce a counterculture: 'DiY Culture, a youth-centred and –directed cluster of interests and practices around green radicalism, direct action politics, new musical sounds and experiences, is a kind of 1990s counterculture' (McKay, 1998, p.2). The rise of innovative forms of activism (illustrated by the tactical inventiveness of tree-sits, lock-ons etc. utilised during anti-roads protests) coupled with a plethora of alternative lifestyles led some commentators to argue that a DIY culture had emerged. This counterculture was typified by disillusionment with traditional politics and a preference to develop alternative forms of participation and direct democracy (McKay, 1998). Although the DIY Culture perspective does incorporate these wider influences upon environmental activism, it is little more than a broad descriptive category that fails to offer any framework for further analysis of the operation of environmental politics. Furthermore, its emphasis upon youth and radicalism provides only partial consideration of other participants in environmentalism.

Of these three approaches social movement perspectives such as those advanced by Melucci (1994, 1996), Tarrow (1998b), Castells (1996), and Della Porta and Diani (1999), enable a greater depth of analysis into the actions of diverse social movement participants. These facilitate consideration of all components (and their related aims) of the environmental scene, from those involved in 'counterculture', to NGOs who aim for their views to be included in government policy. All levels of action (personal, cultural and political) need to be examined in order to understand fully the processes that produce the tangible products of social movements in, for example, non-violent direct action, protest events, or political lobbying. Many of these functions remain hidden using other approaches, but are vital for a full understanding of political activist processes. Furthermore, social movement theories provide concepts (analytical tools) through which detailed analyses of the implications of CMC are possible.

It is perhaps necessary at this stage to explore in a little more depth what is meant by the use of social movement perspectives and then to outline their applicability and usefulness to understanding British environmental activism. Amongst social movement theorists there is a broad division between examinations of 'old' social movements and 'new' manifestations. Of the four main trends, three - the collective behaviour perspective, resource mobilisation theory (RMT), and the political process perspective - provide frameworks for analysing different structural aspects of the 'old' social movements. The collective behaviour approach defines social movements as a form of loose organisation with shifting and indefinite membership, as opposed to 'organisational' and 'institutional' behaviour (Turner and Killian, 1987). RMT places greater emphasis upon the role of resources and organisational factors in transforming a set of beliefs into collective action. In contrast, the political process perspective has focused upon the relationship of the emergence of social movements to the



established polity, and how actors attempt to gain access to political power holders (Tilly, 1978).

The fourth trend – the New Social Movements (NSM) approach – contrasts with these earlier approaches by concentrating on the ‘why’ of collective action rather than upon the ‘how’ (Melucci, 1989). Furthermore, NSMs are differentiated from old social movement theory because they appear to be no longer centred around the conflict over capitalism, between workers and employers or conflict around existing political structures. Rather NSM theory tries to relate social movements to large-scale structural and cultural changes within the so-called ‘information age’ (Castells, 1996). NSMs are concerned with adjusting the logic of the system. They want more than simply a reallocation of resources, or mere representation, they question the whole system and its codes and instead propose new cultural codes (Melucci, 1994). In this sense, NSMs assert their ability to produce new meanings and new forms of social life and aim to change societal values in a paradigmatic battle with the dominant model of society and existing concentrations of power. This ‘systematic effect of making power visible is the characteristic function of social movements on societies increasingly based on information. Thus, the movements enable society to recognize and face the larger questions affecting human life in contemporary complex societies’ (Melucci, 2000, p.98).

Although diverse social movements have emerged since the 1960s, of which many appear merely to request political incorporation rather than challenge their system, Melucci (1994) has convincingly illustrated that movements such as the women’s, peace and ecological movements do fundamentally challenge the dominant logic of society. NSM theory emphasises the cultural sphere as an important area of conflict (which challenges the political process perspectives’ concentration upon political movements). Increasingly, social movement analysts are focusing upon the importance of the development of countercultures and self-transformation. In other words, increasing attention is being paid to the importance of personal needs and lifestyle choices in activism. For Chesters (2000a), new social movement theory:

stresses a need to analytically distinguish between the differing levels at which such protest actions are meaningful – personally, culturally and politically – and to articulate the processes which are often hidden from view, but which energise and facilitate protest events, such as the construction of a collective identity through everyday interactions, dialogue and shared activities.

(p.20)

Drawing upon the assertions made by NSM theorists and broader interpretations, a definition of what constitutes a social movement is sought by which analysis of CMC use can be examined. As the applicability of NSM theory to the British environmental movement is still under debate (see Wall, 1999a) and the approach has been criticised for being insufficient (Lentin, 1999; Scott, 1995), a broader understanding of the processes of political activism is required to prevent relevant aspects or processes being ignored<sup>10</sup>. Furthermore, the aim of this chapter is primarily to outline a useful framework through which to analyse the implications of technology use. To do this there needs to be a clear understanding and delineation of the structures and processes we are examining.

Diani (1992) has proposed a useful synthesis of the different social movement perspectives to produce a general definition of what constitutes a social movement. He proposes that a social movement is a network of informal interactions between a plurality of

individuals, groups and/ or organisations, the boundaries of which are determined by the collective identity shared by those involved, whose 'actors are engaged in political and/ or cultural conflicts, meant to promote or oppose social change either at the systematic or non-systemic level' (p.11). Diani also proposes social movement action occurs within and outside the institutional sphere (cf. Doyle and McEachern, 1998).

What is especially useful about this definition is that Diani is careful not to exclude the earlier approaches to the study of social movements or the possibility that groups may seek inclusion into political structures at the systematic level while simultaneously critiquing the dominant logic of society. This definition is also constructive in enabling the analysis of both institutional bodies and loose structures of organisation that are present concurrently in many political movements. For analysis of the implications of technology use this is a vital inclusion as part of the aim of this book is to compare CMC use between differing organisational forms that are likely to have different resources available with which to employ the technology. Such an encompassing definition also incorporates the three conceptualisations of the politics of cyberspace advanced by Resnick (1998), by including a wide variety of organisational forms. This definition then will be used to shape the choice of processes to be explored in detail for the implications of CMC use.

Using this definition and drawing upon many of the NSM theory assertions, the British environmental scene can best be conceptualised as a social movement. It has a tendency towards informal participatory democratic modes of organisation, a fluid structure of networks, and a mix of non-institutional and institutional politics. Combined with its counterhegemonic aim towards changing societal values, it fits within Diani's, and many other theorists', definitions of a social movement.

Social movement analyses are increasingly being applied to the British environmental movement. Wall (1999a) utilised many of the concepts in his examination of Earth First!, and Chesters (2000a) has argued that NSM theory is the most appropriate way to probe the underlying processes of radical environmentalism. The British environmental scene is vigorous and vibrant and yet also diverse and composed of disparate factions (Bosso, 1991; Merchant, 1992). It incorporates a range of groups from the large established NGOs to smaller non-hierarchical groups or local interest groups. These groups differ not only in their organisational structure and resources, but also in their aims. There is a broad dichotomy between 'reformists' (who accept the present system and parliamentary democracy) and 'radicals' (who want fundamental change) (Pepper, 1996).

Rüdig and Lowe (1986) have argued that there is an absence of a strong radical ecological movement in Britain. Furthermore, Rüdig *et al.* (1991b) argue:

the chances for any new social movements to emerge as an independent entity are thus very slim. Where such movements emerge and refuse any association with the interests dominating British society, they remain marginalised. More frequently, grievances which do not find a 'respectable' expression in terms of an integrated interest group, appear to find their expression in unorganised, spontaneous collective actions such as inner-city riots or football hooliganism.

(p.139)

Events in the 1990's however illustrate the inaccuracy of such an assertion. Many components of the radical British environmental scene have managed to remain non-partisan, to resist integration and yet they still trigger significant changes in environmental attitudes and policy. Large-scale actions such as the J18 demonstrations in London were more than

‘unorganised, spontaneous collective actions’: they were acts of very ‘organised spontaneity’ (Scott and Street, 2001), which were well co-ordinated and had a clear political message.

Since the early 1990s there has been an increase in non-violent direct action (NVDA) protest – such as the occupation of development sites and large-scale urban street protests (Doherty, 1999a). Although on examination the size of these specific groups or their actions might not be immediately representative of any majority of the population their actions have been acknowledged by government and their adversaries, and to an extent they have generated influence disproportionate to their size. Furthermore, the use of NVDA has influenced more established groups. Although the more established NGOs such as FoE and Greenpeace began as radical groups in the 1970s they had entered a process of increasing professionalism and institutionalism by the 1990s. The rise of new groups such as Earth First!, Reclaim the Streets and many smaller local groups challenged the existing NGOs position and triggered some, for example FoE, into supporting and undertaking NVDA once again (Lamb, 1996). Rüdig *et al.*’s dismissal of the possibility of an emergence of a radical environmental movement further ignores that radical direct action groups have no intention of getting ‘inside’ political process or developing into pressure groups (Grant, 1989). Neither do they appear to be becoming marginalised, which can trigger the adoption extreme of terrorist tactics (Della Porta and Diani, 1999).

In all the movement is well publicised, has mobilised significant resources, and draws support from a wide population cohort which includes people from a variety of social locations. In terms of exerting political influence (resulting in the enactment of environmental laws such as the Wildlife Act), capturing mainstream media attention, increasing membership of large NGOs, and having a significant and well-known profile, the British environmental movement has been highly successful.

Thus the composition of this environmental movement can be delineated as the the sum of all the different structural forms that exist within the environmental scene: the individual, network, informal group, and formal organisation (Doyle and Kellow, 1995). Many of the individuals involved in networks or informal groups (such as Earth First!) consciously abstain from electoral politics and instead promote DIY politics, normally through direct action (Doherty, 1997). This kind of DIY politics is seen as informal, participatory, all-inclusive, non-hierarchical and challenging to the dominant political order. In contrast, organisations tend to be more formalised and are involved in both the politics of non-institutional social movements and the institutional politics of government. These are often defined as non-government organisations (NGOs) - permanent, and well defined with a constitution (Byrne, 1997). They are by and large autonomous from government and operate at local, regional, national and transnational<sup>11</sup> levels (Willets, 1996; Charlton *et al.*, 1995). Princen and Finger (1994) and Jordan and Maloney (1997) quantify NGOs, such as FoE, as separate from social movements as they do not practice participatory democracy. As will be explored in greater depth in chapter 3, FoE UK does not operate using participatory principles as much as some of the more radical groups, however they have routed their philosophy in the need for participation. Furthermore, in Britain the significant integration of NGOs into the movement – in terms of communication between differing environmental groups and co-ordination of joint campaigns between NGOs such as FoE and radical direct action groups – demands their inclusion in analysis of the operations of that movement (Doherty, 1996a). However, NGOs are only included as one component of the much larger network of a variety of groups and individuals which constitute a movement as outlined above.

## Interpreting technology

Any examination of CMC by activists not only requires an understanding of the processes of political activism but also a framework through which technological change can be conceptualised. As identified earlier, technology is of our own making and its use a result of social processes. Technology is socially constructed; designed, built and implemented by us. It involves the construction of knowledge and organisation surrounding its implementation. Thus it is important when examining uses of technology to include all aspects of their social organisation and cultural value:

“technology” does not just refer to the physical form, the pieces of metal, the electronic components, the chemical compound. Technology refers to the way in which the parts are organised, through the application of knowledge, to realise their particular purpose ... it is also a set of decisions about how that technology ought to work.

(Street, 1992, p.8-9)

Returning to Resnicks' (1998) three concepts of the politics of cyberspace, there have been important debates about the implications of CMC for society which have dealt with the politics within cyberspace, political impacts upon cyberspace and political uses of cyberspace. Of these, much of the analysis has fallen into the dichotomy of being utopian or dystopian. Utopian writings seek to suggest that technology will solve virtually all of society's problems – ethical, economic or political (Graham and Marvin, 1996). Utopian visionists such as Rheingold (1994) and Mitchell (1996) paint a picture of cyberspace as a communitarian haven of equality and decentralised community organising. In contrast dystopian theorists often predict negative consequences of technology use (cf. Boyle, 1997). Both these visions are futuristic, simplistic and a form of 'myth-information' (Winner, 1988). They fail to examine the complexities of technology use, are rarely grounded in empirical evidence and thus seem somewhat optimistic. These debates, however, are useful in that they highlight issues (and possibilities) that might be of relevance to environmentalists – such as the possibility of on-line communities (within cyberspace) or the threat of surveillance (political impacts upon cyberspace).

In much of the utopian and dystopian hyperbole surrounding the use of CMC, the technologies have been cast as socially and politically determining (Friis, 1996). Technology is seen as an autonomous agent of change, its inherent capabilities causing things to happen independently in an inevitable unidirectional process that can be projected (Mackay, 1995; Marx and Roe Smith, 1994). In this vein, CMC is predicted to directly cause fundamental changes in society, changes to which society can only react, not alter (Grint and Woolgar, 1997).

Conversely, social constructivist theorists argue that 'technology does not spring, *ab initio* from some disinterested font of innovation. Rather it is born of the social, economic, and technical relations that are already in place' (Bijker and Law, 1992). This is supported by evidence that the same technologies have produced alternative outcomes when used in different situations. Technology becomes appropriated and reinterpreted by its users – not always using it as foreseen by its designers and developers (Feenberg, 1999). Thus social constructionist theorists examine the micro-level social processes which shape cyberspace. Deterministic assumptions are challenged by an awareness that technology is not a discrete artefact which operates externally to *impact upon* social relations, and through a methodology which seeks to explore the complexity and two-way relationship between technology and the

user. The social relations which construct the use of a technology can be studied via in-depth empirical examination of the way in which CMC is viewed and used by different groups of individuals.

A danger of such an approach, however, is that social constructivism overplays the importance of social agency and underplays the role of industry and science in technological developments (Escobar, 1994). This can to some extent be resolved by the consideration of some aspects of technological development as advocated by political economy theorists. This perspective suggests that technology is inextricably tied into capitalist modes of production and the associated societal relations of capitalism. Thus, CMC will serve to reproduce the political and social relations of capitalism (Graham and Marvin, 1996). This is also a view held by some environmental activists as will be discussed further in chapter 2. For example, the production of computer systems by large companies such as Microsoft would bear influence upon the ways in which environmentalists could make use of the technology.

On its own this approach ignores the possibility of subversive use of CMC by, for example environmental activists, to curtail the prevailing model of capitalism. However, such considerations should be combined with a social constructionist approach to produce a more comprehensive understanding of the influences upon technology construction and use. Inclusion of the importance of some aspects of technological development from the political economy perspective enables a clearer analysis of the political impacts upon cyberspace such as multinational ownership or government regulation of its uses.

Furthermore, the way in which CMC is constructed is liable to have a significant influence upon the way in which it can be controlled. Using an alternate interpretation of 'code' from Melucci (who explored the dominant code of society), Lessig (1999a) has explored how the architecture of CMC is routed in code as a way to examine how CMC is structured and consequently controllable. Thus Lessig (1999a) claims that governments or business could easily legislate and regulate CMC by controlling the code that is written. Until recently, with the emphasis upon simplistic utopian or dystopian analysis the complexity of what this might mean has been ignored. However, activists are beginning to move beyond simply thinking of the technology as a tool with hardware they could own, to taking control of the code too. The proliferation of open source software (and activist websites based on the open code) challenges the governments ability to regulate such CMC use (see also Castells, 2001; Levy, 2001).

The structure of cyberspace has also been likened to that of a rhizome (Escobar, 1994; Wark, 1994; Froehling, 1997). While this concept does not provide a comprehensive framework with which to examine the implications of technology for society, it can be used to help understand the organisational structure of CMC and consequently how groups using CMC are able to interrelate. Deleuze and Guattari (1987) have used the concept to develop an alternative way of viewing space. It form has no definite beginning or end and grows in all directions (Shurmer-Smith and Hannam, 1994). A rhizome has no centre, points or positions, just lines and intersections, so everything is fully interconnected and consequently non-hierarchical. Space is thus represented as smooth, open, and nomadic. Furthermore, a rhizome may be broken, or shattered, but then 'it will start up again on one of its old lines, or on new lines' (Deleuze and Guattari, 1987, p.9).

This nomadic, interconnected, space of multiplicities can be used to describe how political activists use CMC. Cleaver (1995) and Froehling (1997) liken the way the Mexican Zapatistas' (and their supporters') use CMC to this understanding of the rhizome. Environmental activists' form of organising using CMC could reflect this rhizomic structure –

with no core or root, but infinite connectability and a resistance to connections being broken or lost. If cyberspace reflects such rhizomic form, then its use by political activists poses a distinct threat to their opponents. Furthermore, a rhizomic structure provides multiple entryways, facilitating potential participants entry into environmental activism through connection into their rhizomic on-line network. This interpretation of rhizomic structures however tends to relate more to how technology is used rather than aiding understandings of what technology is, or how technology is constructed through social agency.

Returning once more to Resnicks' concepts, it is clear that any of these theoretical approaches towards the study of technology taken alone is both limited and limiting in understanding the three processes of the politics of cyberspace. Each perspective is too narrow in its consideration of the factors that influence our understandings of technology (Feenberg, 1999). To be able to adequately consider the influences upon CMC use, a combination of the social constructivist and political economy perspectives has been employed throughout the book. This acknowledges that technology is the result of an interplay between a variety of factors (Dosi, 1982). While environmental activists are able to socially construct their use of technology, the wider political system and its ownership by multinational companies also shape CMC.

In support of the use of a combined approach, Fischer (1985) called for the use of more empirical detailed work, which avoids 'sweeping metaphors, assumptions of homogeneity and of linearity ... the same technology may be used differently by different people in different ways to different effect' (p.294). As a result, this combination enables a sensitivity to the variety of processes which impact upon environmentalists' use of CMC, and is reflected throughout the book by an examination of the different factors that play on their technology utilisation.

This approach towards technology is combined with the use of social movement perspectives. Social movement theories frame the processes of collective action, providing a useful structure through which to examine the variety of factors that influence technology use. As each chapter explores an aspect of activism, the detail of influences upon CMC use can be examined – the situations that shape individual environmentalists' use of technology combined with the broader forces of government or multinational activities.

## **CMC and the changing nature of political activism**

Having outlined a framework with which to examine political activism and technology it is now possible to elaborate on a range of assertions about environmentalists' use of CMC which will be examined using empirical evidence in the rest of the book. There has been relatively little attempt to examine the implications of CMC within social movement debates. This is surprising considering the considerable literature on the existence and forms of social movements, and the prognosis that such new forms of communication are likely to particularly affect groups involved in non-institutional politics (Tarrow, 1998a; Castells, 1997b, 2001; Melucci, 1996). Diani (2001) has explored the possible implications of CMC use upon mobilisation potential and Tarrow (1998b) has identified the area of research but has yet to explore an answer:

Is the new technology of global communication changing the forms of the diffusion of collective challenges or only the speed of their transmission? ... we will need to follow some of the recent campaigns that have been assisted by electronic communication to find out whether it increases the movement's power or merely changes how it

frames its message.

(p.193-4)

Castells (2001) is one of the few who begins answering such a question. He asserts that the internet is indispensable to those social movements concerned with cultural values, organising in a non-hierarchical loose form and for those wishing to retain their local roots and yet act on a global level. In comparison to social movements extensive and innovative use of CMC, Castells also illustrates the lack of interaction offered on-line by formal political parties. In all, he asserts that activists are able to benefit greatly from CMC use, despite cyberspace being a contested terrain: 'by relatively levelling the ground of symbolic manipulation, and by broadening the sources of communication, it does contribute to democratization' (p.164).

This book aims to continue this dialogue about social movements and their use of CMC. As previously defined social movements contest and create cultural patterns in contention with the prevailing model of society. Communication is vital for this to take place - both within the social movement itself and out to other movements, political decision-makers, the media and the public. Accordingly, social movements historically have been concerned with access to, and use of, communication technologies such as the printing press, television, radio, citizen-band radios, mobile phones, photography and video. In this context the use of CMC could be viewed as simply an additional form of communication technology. However, CMC is more than just an extension of existing media<sup>12</sup> and may potentially trigger fundamental changes in social movement processes. In addition, Melucci (1996) has suggested that the use of CMC could develop into a site of conflict, since,

On the one hand, there can be observed a concentration of power, with very few core centres that control the world in terms of the world-wide transmission and distribution of ideas, languages, programmes, and the like; on the other hand, we can see emerging symptoms of resistance to this trend, manifest in, for example, the action of hackers, information pirates, self-managed networks, and so on. (p.194)

Here Melucci is alluding to the use of CMC as a form of resistance to the those influencing the dominant logic of society – governments or large corporations. This resistance could take the form of self-organised communication networks campaigning for social change or hackers' disruption of the systems that their opponents rely upon. In effect the conflict would revolve around control of the means of communication, transmission and distribution.

Furthermore, Melucci's concept of the production of 'codes' (which come to represent the dominant logic of society) can be considered in terms of CMC. In a programmed/technocratic world much of society revolves around the production of information and communication resources. Conflict arises around this production and social movements form to challenge the apparatuses that govern the construction of information (principally by their opponents - the government and corporate interests) in order to reveal that the dominant system of meanings is not neutral but reflects vested interests and unequal forms of power. Thus social movements are seeking to 'recast the language and cultural codes that organise information' (Melucci, 1994, p.102). This is achieved through a number of channels, with some groups attempting to use mainstream media, while others prefer to project their own message through alternative media and CMC. Codes are also culturally challenged by exemplifying alternative lifestyles and through visible protest. CMC potentially increases social movement participants' ability to communicate because it is low cost, enables editorial control, and potentially offers access to an international audience.

In this respect then, even at the most basic level, advances and changes in the form of communication technology which are adopted by movement activists, may well aid their capacity to form and project alternative codes to the wider public and their political adversaries. Whether their adversaries will benefit to the same extent from communication technology advances and thus nullify any movement advances, will also be explored.

CMC use has the potential to impact upon many social movement activities and its influence can be examined in detail by considering these processes and functions separately. Thus, CMC may alter the social movement processes of organisation operation and mobilisation, collective identity and the formation of solidarities, and the development of repertoires of action. Furthermore, CMC use may modify the role movement intellectuals and how public space is created for debate. Each of these will now be examined in more detail and assertions made as to the possible implications of CMC use which will be re-examined using empirical evidence throughout the book.

### **Social movement organisations, networks and mobilisation**

There tends to be heterogeneity and plurality in the forms of social movement organisation (SMO), a constant process of 'adopting, adapting, and inventing' (McCarthy, 1996). SMOs tend to favour decentralisation, participatory democracy, internal solidarity, and *ad hoc* short lived leadership. Organisational models have been differentiated by Doyle and McEachern (1998) according to the degree of organisation, distribution of power, and in the level of commitment required from participants. These potential differences have resulted in a panoply of organisational forms, such as: local nuclei, umbrella organisations, party models, public interest groups, movement associations and supportive organisations.

Movement networks are often viewed as the cornerstone of any attempts at mobilisation (Oliver and Marwell, 1992). Research so far has concluded that recruitment and mobilisation is reliant upon individuals inclusion and integration within social movement networks (Wall, 1999a; McAdam, 1988). Usually that initial inclusion in social networks is reliant upon face-to-face interaction. It is not just the existence of a social tie which is important but the *type of link* and the intensity of ties. The intensity of social ties necessary to mobilise action increases proportionally with the associated costs of the action (measured by the personal risks and personal transformation required). Furthermore, a strong identification with the cause, previous membership of political organisations or involvement in a strong counterculture are also necessary (McAdam and Paulsen, 1993). Jasper and Poulson (1995), however, have been able to identify that 'strangers' can be recruited into collective activism in the absence of social networks, through 'moral shocks'. Movements use both mechanisms for recruitment - existing social networks and moral shocks.

CMC is likely contribute to these forms of mobilisation in a number of ways. CMC could serve as a useful technology through which to articulate moral shocks to a wider audience than previously possible, serving as new medium through which to frame activists concerns. There remains doubt, however, as to whether participation is likely to occur without previous interaction (Wall, 1999a). Diani (2001) has argued that the usefulness of CMC in mobilising participation is dependent upon the types of resources that organisations are attempting to mobilise. Those mobilising professional resources (such as FoE) are expected to gain in terms of efficiency of communication - but this is not likely to impact upon identity building as there is little need to mobilise for direct action.

For those mobilising participatory resources (such as direct action groups) mobilisation is likely to remain reliant upon existing linkages. Thus, Calhoun (1998) argues



that CMC may facilitate actors' participation through 'the maintenance of dispersed face-to-face networks' (p.383), but that these networks would have to pre-exist for meaningful virtual interaction to take place. In this way it is unlikely that purely virtual ties will result in sustained collective action. However, virtual interaction has led to formations of on-line 'communities', though the strength and depth of many virtual community networks remains contested (Rheingold, 1994; Virnoche and Marx, 1997). Critics have doubted the durability of social ties created through virtual communication alone and described the relationships developed as 'thinner' than those within traditional communities (Fernback and Thompson, 1995; Willson, 2002; Kolko and Reid, 1998). Meikle (2002) also distinguishes between different forms of interactivity possible via CMC, identifying conversational interactivity as the only form likely to result in productive debate: 'Only with conversational interactivity do we get to the idea of a two-way communication flow, with both partners producing and inputting their own information, and, often more than this, working to create something' (p.31). Thus, on-line communication needs to be examined with respect not only to who is communicating, but how they are communicating to determine what implications CMC might have for fostering ties strong enough for mobilisation.

Social movement organisations link to each other through both official consultation channels and through the multiple affiliations of their activists. CMC use is likely to improve the effectiveness of this communication in terms of increased speed, reduced costs, persistent accuracy of the original message, increased interaction between branches of organisations and the possibility of connecting a geographically dispersed set of individuals into an united aggrieved population (Myers, 1994). It is doubtful, however, whether increased communication possibilities alone can overcome existing contentions between SMOs as technology has rarely proved to solve social issues (Krish, 1994).

Use of CMC may also affect the 'strength' of movement networks in that communication becomes simultaneously both easier and more fragmented. Those who are connected are able to communicate with others who are connected more quickly, easily and cheaply than before. For those who are not, the use of CMC by other groups can actually begin to exclude them as they become left out of conversations, and communication with them without using CMC appears to become relatively harder. Although clandestine groups have long existed effectively within many social movements, CMC facilitates not only their anonymity but also their connections to other SMOs without revealing themselves. CMC use may increase communication between the different types of groups by providing yet another medium for communication.

Technological development is likely to change the forms of organisation (Tilly, 1978). CMC use offers speed in terms of response, information gathering, networking ability to groups and reduction of co-ordination costs, which in turn might alter their organisational capabilities. The utilisation of CMC may reduce the requirements for a highly structured organisation, in that it is now possible for a 'lightweight' one to get a message across (Scott and Street, 2001). Although the use of CMC requires some technical proficiency, it also affords more flexibility to groups who can benefit from the lack of editorial control. This once again reinforces the proposition, supported by Castells (2001), that CMC may facilitate the development of less rigid and formal organisational forms (and reduce the push towards professionalism), enable smaller groups to voice their views more successfully and perhaps trigger mobilisation. However, although in principle evolution towards institutionalisation may be challenged by the use of CMC, Washbourne (1999a) argues that it is more likely that this process would have been challenged anyway by internal and external forces calling for greater accountability and democratisation.

## **Identity and solidarities**

The creation and shaping of identities within social movements is said to be important in the successful mobilisation of collective action and to the maintenance of the movement through latent periods (Johnston *et al.*, 1994; Castells, 1997b). CMC could facilitate the building of collective identity and solidarity, by increasing the ability of individuals to communicate with other like-minded activists in a form of 'direct' communication, strengthening feelings of identity even across dispersed networks. However, whether virtual interactions have a similar capacity to formulate identities as those of face-to-face interactions is still under debate (Willson, 2002). A key aspect of this may be the requirement of mutual trust, which is essential for mobilisation purposes. The problem is how mutual trust is created through virtual interaction (Tarrow, 1998b, p.193). In interactions activists seek some form of validation of the individual or group, for example, through word of mouth or through the linkages from web sites that activists approve of. This validation and approval of sources has also been sought in social movements from printed media and alternative media sources.

CMC use may also facilitate a cross-movement, cross-cultural, interaction and thus change an individual's view of their identity (McAdam and Rucht, 1993). For example, they may move from being primarily concerned with local environmental issues, but through internet use begin to view themselves as a political activist with wider concerns. Similarly, an environmental activist may begin to interact, through CMC, with computer hackers. As a result each could acquire new skills and develop new identities. Finally, CMC use may affect their identity as perceived by their opponents and critics as being modern, non-luddite, pro-progress and innovative by using a technology with which many of the mass public are not adept.

## **Repertoires of action**

The repertoires of action of a movement refer to the set of strategies, tactics or forms of protest which are employed by its participants. Repertoires of action are strongly influenced by historical traditions, diffusion of ideas from other social movements or cultures, movement leaders' choices and political opportunity structures (Tarrow, 1998b). The repertoire of action is also finite, limited by both time and space, such that techniques of protest evolve slowly, limited by tradition, adapted from previous forms, and this in turn might actually limit innovation to the margins: 'people tend to act within known limits, to innovate at the margins of the existing forms, and to miss many opportunities available to them in principle' (Tilly, 1986, p.390)<sup>13</sup>.

Repertoires can also be exclusionary, they depend upon the resources available to certain groups or develop in response to police or political adversaries (Doherty, 1999a). The use of CMC is highly reliant upon the acquisition of the technology and a certain level of skill, thus innovation using CMC may in turn only appeal to a certain section of the environmental movement and may actually be exclusionary in their development.

However, this use of CMC also extends the existing protest repertoire in terms of providing another tool to be utilised during protest organisation and campaigning. In particular CMC use is likely to affect the need to gain public attention via coverage by the mainstream media. Traditionally media coverage has been an important way to reach a broad audience. However, trying to gain media attention is particularly difficult, primarily because moderate actions are not newsworthy, yet extreme acts will be condemned and, even when coverage is given, actions are often represented without explanation of the proposed message

(Rochon, 1988; Smith *et al.*, 2001; Scalmer, 2002). The use of CMC could radically alter this search for media representation, by enabling self-representation to a wide audience. Traditionally, many choices of repertoires of action have been based on the assumption that their actual action will be mediated by the media and more powerful actors. The use of CMC challenges this assumption as it enables the activists themselves to mediate their message, and provide as much detail and content as they wish.

In addition, the use of CMC enables the development of radical new forms of action which were not previously possible, such as the use of electronic civil disobedience, and could aid in the diffusion of information about the construction and operation of tactics. Such information previously would have had to be distributed through underground publications and word of mouth (Rucht, 1993). Furthermore, the use of CMC may do more than simply enable new forms of action to be developed at the margins of existing repertoires, such as adapting existing notions of civil disobedience to the electronic sphere. It may also enable the merger of previously distinct sets of action into new forms, such as the use of on-line tactics simultaneously with street tactics, and change the focus and characteristics of the repertoire of action more fundamentally.

### **Movement intellectuals**

Movement intellectuals are often the source for new ideas and a critique of modern society. Intellectuals contribute to 'the existence of a vocabulary and an opening of ideas and actions which in the past was either unknown or unthinkable' (Gusfield, 1981, p.325). Movement intellectuals help determine a social movements' ideological direction and influence the use of resources - cognitive, material and affective - in the mobilisation processes (Bagguley, 1992). However, the movement intellectual is increasingly less the ideological leader, and more the spokesperson, facilitator, interpreter and synthesiser (Eyerman and Jamison, 1991). Such intellectuals could advocate new ways of viewing and utilising technology – to those within the movement and the general public – ways that might contradict with commercial desires for the technology.

Intellectuals' ideas need to be communicated and social movements have increasingly adopted more professional tactics and employed (sometimes non-committed) professionals in order to communicate their message better to both those within the movement and those outside. Communication has been 'technified' with the rapid development of new hardware through which to communicate, such as the radio, television, computer, or video phone. Through such developments communication is increasingly technically mediated (Eyerman and Jamison, 1991). The use of CMC contributes to, and challenges, this process of mediation and professionalisation. It enables movement intellectuals to bypass the mediation by the mainstream media by communicating directly with the masses, and to an extent bypass the requirement for professional skills. Through CMC movement intellectuals' ideas may be able to be more freely distributed and consumed within the social movement and thus aid their ability to stimulate protest.

At the same time, use of yet another form of hardware contributes to the mediation of the message through technology, and any use of technology requires a certain level of skill. There is a risk that if the intellectuals are some of the better educated in the movement, and they have an important role to play in tactic choices, then they may advocate the use of such a complex technology that not all are able to participate. Also, although through using CMC it is easier for more people's ideas to be distributed freely, there is still an emphasis upon the

written word. Emphasis upon CMC may exclude those intellectuals who are less able to articulate their ideas through text and distracts from the emotive force of a public speech.

Although it may be argued that all activists in a social movement are ‘movement intellectuals’, because they contribute to the collective identity, some individuals are more *visible* than others as the organising forces, leaders or spokespersons. This visibility is enhanced by the mainstream media (Eyerman and Jamison, 1991). The use of CMC, however, can reduce the divide between these visible movement intellectuals and other social movement actors. The interactive capabilities of the technology enable more individuals to converse more easily and to critique the intellectuals’ written text and ideas. Such increased interaction, and the potential of more ideas to be shared could result in a movement aligned closer to the ideals of participatory democracy – where the future of the movement is decided by genuine discussion within the movement and not simply handed down by intellectuals to the masses. This also raises the question as to whether the notion of a ‘movement intellectual’ is still valid when not only can CMC use reduce their role, but their existence is counter to the decentralised and non-hierarchical desires of many social movement organisations.

### **Public and private spheres**

One of the goals of many social movements is to widen the public sphere and increase the area for public debate. The ‘public sphere’ is being constantly restricted by state and corporate encroachment and there are increasing attempts to control the private sphere by the government (Lyon, 2001). Access to the public agora and the fight for the space to communicate thus becomes a central issue for any social movement: ‘control of the media and of symbolic production therefore becomes both an essential premise for any attempt at political mobilization and an autonomous source of conflict’ (Della Porta and Diani, 1999, p.40).

Social movement activists may use CMC as their own form of symbolic production unrestrained by the corporate control of the mainstream media – using CMC to reopen the public sphere<sup>14</sup> (O’Donnell, 2001). This could be achieved by using CMC to organise protests to voice their concerns, or in terms of using the virtual space of cyberspace as a new form of a public sphere. Furthermore, CMC could also be used by activists to regain some of their privacy that has been threatened by government surveillance.

These assertions illustrate that CMC use has the potential to alter many aspects of social movement activities. It is also important to consider the impact of CMC at each level or process of a social movement. On the surface, it is clear that use of technologies by social movements is in itself not new. Careful examination is required in order to determine how CMC use might alter processes and will be explored in the context of specific case studies over the following chapters.

### **Summary**

As initially identified, any comprehensive examination of the politics of cyberspace needs to incorporate consideration of a wide variety of influences upon the medium. The politics within-, impacts upon- and political uses of cyberspace can be analysed using a social movement approach combined with understandings of technology as socially and politically constructed. Using these as the theoretical framework for analysis, a number of assertions

have been made about the potential implications of CMC use for environmental activists in Britain.

Primarily, there is likely to be increased efficiency of operations. CMC use offers speed in terms of response, information gathering and networking ability to SMOs, which in turn might alter their organisational capabilities. Use of CMC may enable less hierarchical forms of organisation to exist more effectively than previously and thus reduce the pressure towards professionalization and oligarchy that many SMOs face. There are possibilities for new forms of recruitment and identity formation, (though this is limited by the apparent need for face to face interaction). There is also a potential for an increased diffusion of ideas, sharing of ideologies, and tactics, across social movements and geographical areas, which may strengthen existing networks.

CMC also offers new opportunities for new forms of tactics to be developed using the technologies. Movement intellectuals' ideas may be able to be more freely distributed and consumed within the social movement and thus aid their ability to stimulate protest. At the same time, however, CMC also enables vast numbers of other individuals freely to distribute their ideas and critique existing intellectuals, and thus may enable new intellectuals to develop, and the movement to move further towards participatory democracy. Finally, activists may use CMC to assert the need for a public sphere. It could be used both as a medium through which to organise protests, and as a virtual public sphere.

The aim of this book is to explore whether environmental activists are actually able to operate and benefit from CMC use in the ways outlined here. Furthermore, examination is required of the ways in which they negotiate any problems in utilising CMC. Thus it begins, in chapter two, by illustrating how activists resolved the tensions of using a potentially environmentally damaging technology.

## 2: Negotiating the tensions of techno-environmentalism

This is the classic dilemma for activists - the tools we use for the job of opposition may not be the ones we wish to become dependant on in a free society. Just like money - we need to raise it and use it now, but it would be a great relief when it is finally abolished in the future.

(Dave Morris, McSpotlight)

Technology has historically been viewed with scepticism by environmentalists. This scepticism can also manifest itself as a tension *between* environmentalists who advocate differing approaches to, and uses of, technology (Pepper, 1996). Techno-environmentalism refers to those environmentalists who advocate the use of particular types of 'appropriate' technology, such as wind turbines, to overcome some resource issues in contemporary society, thus justifying the use of certain types of technology while still opposing others<sup>15</sup> (Lewis, 1992). This is in contrast to those who argue for the dismantling of all complex technologies (Glendinning, 1990a; Rifkin, 1989; Tokar, 1992).

This debate has resonance historically, but has been brought to the fore as many environmentalists have eagerly adopted CMC (Clark, 1996). Their utilisation of such technologies lies uneasily within traditional environmental philosophy. CMC requires the use of high technology whose production and use has extensive environmental and social consequences. Not surprisingly, its use results in tensions between environmentalists' theories and practices, for not only is CMC technology environmentally damaging, but it is also the very technology that facilitates the functioning of environmentalists' adversaries, and aids the processes of corporate globalisation which many environmental activists are attempting to curtail (Wall, 1999a).

Examination of this paradox enables analysis of CMCs' impact upon society to move beyond the utopia/ dystopia debate (characterised by utopic authors such as Rheingold (1994) and dystopic writers such as Boyle (1997)) to illustrate the complexity of CMC use. There are both strengths and weaknesses, advantages and disadvantages, in environmentalists' use of the technologies, and their use of CMC has compelled many to confront the dilemma of using an environmentally destructive technology. This negotiation is a continuation of an existing process: for example, many environmentalists have had to grapple with justifying their use of automobiles or white goods or, more broadly, how to live a sustainable lifestyle in a modern environment.

The ways in which environmentalists seek to use CMC technology, justify or overcome this paradox, will in turn affect the messages they are attempting to deliver to society. If environmentalists cannot resolve this will some of the impact (or importance) of their message become lost in a mesh of contradictions? It is perhaps indicative of such a process that an article in the *Independent on Sunday* allied the use of high technology to a weakened environmental philosophy, 'Eco-warriors go soft and opt for the telly. Environmental protesters ... are no longer prepared to put up with life's hardships for the sake of their green beliefs' (Nuthall, 1997, p.12).

The purpose of this chapter is to explore the ways in which environmental activists view and negotiate the paradox of using the potentially environmentally damaging technology of CMC. By negotiating the dilemmas many activists are able to resolve their tensions. They

do this in different ways. While these can be isolated into main tendencies, such analysis also illustrates some basic diversities (and incompatibilities) between participants of the British environmental movement.

This chapter is structured into four parts. It begins with an appraisal of the attitudes towards technology espoused by environmentalists, then more specifically explores their views towards CMC and their understandings of the environmental consequences of computers. The third part of the chapter details the ways in which environmental activists sought to resolve the paradox of using CMC, and finally, the consequences of this negotiation of techno-environmentalism are examined.

### **Critiquing the technological-fix**

There is a general suspicion of technology by environmentalists and 'wholehearted acceptance of any form of technology disqualifies one from membership of the dark-green canon' (Dobson, 2000, p.84). Green attitudes tend to favour the natural world over the 'surrogate' world of man-made technology. These attitudes incorporate those who are anti-technology in its entirety (such as primitivists), those who only support the use of alternative technology, and those who are willing to be pragmatic and utilise high technology if needs arise (Lewis, 1992; Pepper, 1996; MacKenzie and Wajcman, 1985). The majority of environmentalists advocate the use of 'intermediate, appropriate and democratically-owned technology' (Pepper, 1996, p.11) and are opposed to advanced technology, but 'only the most extreme eco-radicals oppose all forms of modern technology' (Lewis, 1992, p.117).

Technology termed 'alternative', 'appropriate', 'intermediate', or 'soft' has historically been adopted by some members of the environmental movement (Dobson, 2000; Boyle and Harper, 1976, MacKenzie and Wajcman, 1985). This is in contrast to hard, high or advanced technology which constitutes highly polluting, large energy input, ecologically unsound technologies. Motivated by profit creation, high technologies are capital intensive, mass produced and involve non-reversible use of resources (Dickson, 1974)<sup>16</sup>. Alternative technologies (AT) can be defined as including small-scale constructions within a local environment that can be produced largely by recyclable, recycled or cheaply and easily accessible parts by a local labour force (Boyle and Harper, 1976; Volti, 1992; Schumacher, 1973; Lewis, 1992). They are intended to be easy to use (and repair) and not reliant upon a knowledgeable elite. In this way they are also meant to be 'directly' democratic, minimising relationships that are hierarchical.

Some environmentalists cast doubt on the adoption of any technology, 'even appropriate use of technology is a holding operation rather than an assault on the principal issues' (Dobson, 1995, p.98). They even critique the use of AT as being part of a belief in a 'technological fix', a practice that would need major technological innovations in order to solve all the world's problems. Instead many propose that social change would be more appropriate. If AT is seen to be the 'fix' to problems, then this assumes that the problem with advanced technology was simply that it was designed and used inappropriately. Pepper (1996) also argues that attributing the problems of advanced technology to ownership and thus striving for AT to be communally owned (as suggested by Schumacher, 1973), or asserting that the difficulty lies in large scale production and thus advocating small scale construction, is not adequate analysis of the failures of high technology. AT 'merely complements' (Pepper, 1996, p.97) existing large-scale capitalist development and actually provides the conditions for small-scale enterprise to grow into large-scale capitalism. Thus AT becomes part of the problem rather than the cure.

Amongst those interviewed, some felt that technology and environmental destruction were interwoven. However, few regarded technology as the sole source of environmental destruction or were entirely anti-technology. Rather, many were opposed to the system within which modern technological systems were designed, owned and operated. In this way, such activists did not argue for the destruction of the technology *per se*, but an alteration in the whole operation of society, 'there's nothing wrong with being anti-technology, and ... no environmentalist is 'anti-progress' - they are in favour of social and environmental progress and therefore critical of the alienation and domination of modern technological systems and ideas' (Dave Morris, McSpotlight).

While such views left the option open for interviewees to adopt other technologies deemed more appropriate, such beliefs also formed part of a critique of the 'techno-fix'. In other words, if fundamental social change was the only path to creating a better society, then tinkering with different types of technology would not aid such social change, 'No liveable future can be imagined unless we change our social relations and the circulation of information before simply improving our technical apparatuses' (Melucci, 1996, p.163).

Many activists who were critical of technology use were often particular about the type of technology with which they disagreed and advocated the use of alternative technologies. In particular CAT's principal aim was to encourage the adoption of technology that enabled society to maintain its standard of living, but reduce its environmental impact upon the earth (Harper, 1995). In other words, some use of technology is justifiable:

I am a bit of a technophobe, and a bit of a Luddite, I sort of avoid machinery if I can, including car use, but it's interesting at CAT that their whole perspective is that if you are going to have technology then use it appropriately, so I'm moving towards that idea ... but without taking it too far as well, you don't need technology for everything.

(Kirsty Sunderland, Information volunteer, CAT)

There is, however, some debate between environmentalists as to what actually constitutes AT. Volti's (1992) definition of AT includes the use of other 'high' technologies to attempt to overcome some existing problems, such as the use of carbon filters on cars, or microprocessor monitoring systems of office environments. In contrast, Lewis (1992) refers to AT as excluding 'virtually every innovation made over the past century - if not the past five millennia' (p.117). He aligns AT with the rejection of all complex technologies, including electricity production, television, cars, battery run products and the computer. Within this definition the development of solar and wind power would also be rejected, such technologies which have traditionally been used as prime examples of AT by environmentalists such as Porritt (1984). This debate was also reflected by interviewees where the specifics of which technologies are acceptable as 'alternative' remained unresolved, 'photovoltaic cells are exceptionally highly polluting ... extracting all these complex minerals out of the centre of the earth and then make them into a highly complex technology that only the West controls ... [I] much prefer the idea of wind power, people should have windmills in their back gardens' (James, Earth First!<sup>17</sup>).

For CAT, the task was to make the impact of daily activities as small as possible, while still enabling life to continue in a bearable way. Thus, in addition to the supporters of alternative technology, some interviewees (including some of those at CAT) chose to be pragmatic about their use of environmentally destructive technology. As Mike (Lyminge Forest) noted, 'at the end of the day, living is environmentally unfriendly and you just have to



do your best at being as sustainable as possible'. Steve Jones (former ATA co-ordinator, CAT) related the question about technology to the dilemma about using cars while simultaneously campaigning against their use:

should environmentalists use cars? - everybody should try to use cars as little as possible, but living in a remote area it's not possible, you're just making your life more difficult, and if only the people who are aware of the issues respond to the issues by limiting their lifestyles, then we're just not going to be able to communicate the message. 'We're eco, we're not going to use computers,' then no one will get our message. If we use our message and say, 'think about the consequences of everything you do including computers', then we're fulfilling our mission statement.

In this way Steve has had to compromise some of his beliefs in order to be practical about what is possible. Consequently he uses a car but he also continues to try and negate its environmental impact: 'as much as possible I share it with other people – I'm not the sole user'. Interviewees' willingness to accept the need for the use of high technology reflects their broader lifestyle choices and the extent to which they have chosen to, or are able to, make sacrifices: 'It depends on what you're trying to do, if you're trying to change things then I think it's okay to use stuff like high technology and things that are around at the moment, but if you're trying to live a lifestyle that is totally green I don't' (Peat, Lyminge Forest).

Thus while Jon Ivar (former list co-ordinator, GSN) regarded himself as a deep ecologist (who campaigned for sustainable transport and an end to nuclear power) who believed 'we cannot separate ourselves from nature, and that small, self-governing communities are the most appropriate form of political organisation', he simultaneously had few environmental qualms about using computers because 'it's an essential part of my work'.

Interviewees' views of technology were heavily influenced by the control they were able to exert upon it. In this they assert that technology is not neutral and becomes more acceptable if they have some say in its use. Thus Charles Secrett (Director of FoE) when talking about genetic engineering asserts that, 'technology isn't some pure thing stolen from the gods by Prometheus and given as a gift to man. It is owned by corporations. It is regulated – or not - by government. It can be used for good or ill' (Secrett and Cochrane, 1999, p.2). What is clear is that while there are some distinct traits in the views of technology by environmentalists, an individual's position is often not so clear cut. Such views of technology have been further complicated by the increasing adoption of CMC by activists.

### **Uses of computers: advocates and detractors**

there are two kinds of technology – the enabling, democratic sort, that allows people to swap information and ideas by circumventing the powers that be, and the other technocratic sort that allows only top-down, one-way communication. In the former corner we have the telephone, ... the photocopier, Citizen Band radio – and the internet. In the other corner we have cinema, television, mass media. One allows for passive participation, the other active. One is centralised, the other is strongly decentralised, with no one in control. If we have to have technology at all, I know which I'd prefer.

(Thorpe, [formerly of CAT] 1995, p.12)

In order to utilise CMC one needs to use complex technologies<sup>18</sup>, many aspects of which correspond to Dickson's (1974) categorisation of 'hard' and high technology. This is technology which traditionally has not been acceptable to many environmentalists, even to those who advocate the use of AT. Computers are mass produced, often in foreign countries by low paid workers. The software is often supplied by multinationals (such as Microsoft or Oracle) and is quickly obsolete. A large quantity of power is needed for their construction and the processes produce several toxic pollutants. Furthermore, ownership is private for profit rather than free and shared (Sale, 1995; Young, 1993). Given that environmentalists are increasingly utilising CMC, there is a tension between their views about technology and their use of computers. Some environmentalists have taken an anti-computer stance, 'It's hypocritical, they argue, to claim that computers can be used in an environmentally responsible way; no product of high technology can possibly be harmless, and all should be eliminated' (Anzovin, 1994, p.11).

In particular, the Neo-Luddites<sup>19</sup> oppose using computer (and other) technology as they are highly sceptical of its advantages (Sale, 1995). They argue that the alternatives (such as books, typewriters, pens, and stamps) are perfectly adequate and did not cause as much environmental pollution (Ethical Consumer, 1996; Birkerts, 1995; Henderson, 1996). Furthermore, Glendinning (1990b) asserted that computers 'cause disease and death in their manufacture, enhance centralized political control, and remove people from direct experience of life' (p.52). In a similar vein, Mander (1994a) suggested that computers 'empower corporate global-scale development processes a thousand times more than they do the individual' (p.24) with dire consequences for the environment.

Given the hesitation with which many interviewees advocate the use of technology, it is interesting to note the sheer variety of technology employed by different factions to aid their campaigning – such as telephones, mobile phones, printing presses, camcorders and computers. This association with certain technology has also come from many sources. In the early 1990s many environmental activists joined with others, such as participants of the illegal rave culture and new age travellers, against the Criminal Justice Bill and in turn shared skills and dance cultures' inventive use of technology for organising raves (Collin and Godfrey, 1997).

Unlike primitivists, many interviewees argued that technology itself is not intrinsically bad but that 'it's the way that you use technology that counts' (David Blake, IT systems support, Birmingham FoE). Historically there existed an anti-technology streak running through parts of the environmental movement and this, in some cases, constrained activists' adoption of computers: 'we tried to get the internet going from about Issue 4 [December 1994], I think, but initially people didn't even want to use computers - they wanted to use typewriters' (Jo Makepeace, SchNEWS).

In time, however, people such as Dave Morris (McSpotlight) became 'persuaded by the effectiveness of what the McSpotlight people were doing'. Thus he managed to negate his view that 'technology in general is elitist and oppressive and environmentally damaging' if the technology was used in circumstances which helped the campaign and in particular was able to achieve successes which would not have been possible without using the technology (such as reach an international audience quickly and cheaply). Thus, 'even two years ago a lot of campaigners weren't online and they were Luddites and they firmly believed that technology was bad and it was all in control of the fat bastards ... and now they realise that it's a tool ... and it's a powerful tool so now most of them are online' (Bob, McSpotlight).

This is not to say that all interviewees were enthusiastic about computers, but that there is not a simple antagonism towards them. For example, just within CAT,

there's three groups: (one) there's some that are quite indifferent to it, they don't mess with computers at all; (two) some are really really pro; ... and (three) then there's a few that well - they've realised now that you've got to have it. ... so I don't think there's anybody saying, 'No, we don't need a website' but there's a few that are a bit dubious about it.

(Martin Donnelly, website volunteer, CAT)

This doubt about computers is further expressed as a caution towards the extent of the use of CMC. Some have a fear that virtual interaction can begin to take precedence over personal interaction and 'we have to be wary of the tendency of email, newsgroups and IRC [internet relay chat] to replace personal contact, and of the abstract world of the internet to replace physical contact with nature' (Jon Ivar, GSN). The result of this is that the environmental campaign loses some of its value:

Disconnects us from our immediate surroundings – the earth, face to face community interaction - and focuses on the abstract (online/virtual) reality; intellectualises the campaign which could alienate/reduce the involvement of those who do not have access to/knowledge of/interest in technology; sanitises the concept of direct action as a committed 'hands on' experience.

(Lyminge Forest questionnaire respondent<sup>20</sup> no. 26)

Finally, some still doubt whether any new technology will, in the end, serve to benefit environmental activists given that 'it has uses, but I don't know if those uses outweigh the enormous growth of power and centralisation this technology have given to the corporations. If you think about the way this stuff is marketed it's pretty obvious who it is designed for. I think maybe on balance the advantage goes to our enemies' (Andy, GSN).

### **Awareness of the environmental paradox of computer use**

it's a dirty industry in terms of how it's manufactured, it feeds on the same fears as car manufacture in terms of you always want to upgrade, you're always getting faster and you always want another one ... at the end of the day it's still like buying a car.

(Bob, McSpotlight)

Despite the scepticism about technology use there appears to be a general lack of concern about the tension surrounding the paradox of computer use by environmentalists. Much of the rhetoric surrounding the environmental movement has focused on the potential advantages offered by using CMC. Use is often advocated by discussion of how cheap, secure, fast and uncensored CMC is (RoadAlert, 1997; Schwartz, 1996; Jackson, 1995). Its global reach, use for communication, information dissemination and as a campaigning platform are often cited (Pipes, 1996; Lamb, 1996). Porritt (1984) argues that 'with modern communications technology, there need be no fear of a return to the mean-minded parochialism of pre-industrial Britain' (p.166), suggesting that environmentalists can use CMC to aid the favoured practice of localised and decentralised politics (Dobson, 2000). These advantages to campaigning are presented as if they outweigh any environmental consequences and CMC is often optimistically described as the answer to many existing

campaign limitations. When environmentalists do critique CMC<sup>21</sup> it is quite often not from the perspective of the environment, but about issues of access or usefulness. For example, RoadAlert (1997) state that the internet is 'undoubtedly fairly elitist, as you need expensive equipment and technical know-how' (p.25).

Thus it is instructive to establish whether interviewees themselves recognise the paradox. Activists White and Merlin (Lyminge Forest), and Debbie Bell (former Yorkshire and Humber RCC, FoE) did not hold any environmental qualms about using computers and suggested that it was not a significant issue: 'I am not specifically aware of any major environmental concerns' (Debbie Bell, FoE). David Blake (Birmingham FoE) thought that the computer industry had improved its environmental record recently and that 'the industry has done quite a lot to improve its use of materials. Virtually all the software houses print their support material on recycled paper'. Participants of GSN, in response to the question 'how concerned are you about the environmental consequences of computer manufacture and use?' responded<sup>22</sup>: a tenth 'very', half 'mildly', a twentieth 'not at all' and a quarter were 'not sure'. Such a response suggests that only a minority were not concerned at all, but few were very concerned.

The majority of interviewees, however, identified at least one environmental and social concern that they had with the technology. CMC is facilitating the processes of multinational corporate globalisation to which many activists are reacting. Thus 'the irony is that the same tools that enable capital to disregard borders and produce commodities thousands of miles away from their markets, the internet and cheap air travel, are the same tools which are helping global social movements to meet and work with each other' (Anon, 1999d, p.11).

A Lyminge Forest questionnaire respondent felt that their use of CMC symbolised 'being seen as part of (and endorsing) the consumer, technocratic society, rather than providing an alternative' (no.31). The use of computer hardware and software predominately produced and controlled by 'mega-corporations ... is something we are not happy with' (Tony Canning, IT technical and support manager, FoE).

Furthermore, these 'mega-corporations' are able to take advantage of the international distribution of labour (and some countries' lack of environmental regulations) by locating within developing countries and thus employing workers on low wages. Dave Morris (McSpotlight) emphasised the poor working conditions of these computer component factories, computers:

mean massive profits for huge multinationals who form the materials, who control the materials that go into making the computers, who exploit the workers who compile or construct the internal works and of course who control the distribution of those computers in the marketing ... the majority of workers engaged in constructing the inner works of computers are working in poor conditions for very low pay, often with dangerous chemicals.

In terms of pollution from these processes, Tony Canning (FoE) believed 'ninety per cent of the environmental problems of computers are in the manufacturing stage'. Richard Weatherley (former IT manager, FoE) identified several sources of pollution from computer manufacture including toxic gas discharges and air pollution, groundwater contamination with methyl chloroform, trichloroethylene, benzene and other hazardous chemicals, and the use of CFC in production. He also suggested there were health problems for computer industry

workers caused by exposure to solvents, acids, caustic substances, heavy metals, plastic films and emulsions, and epoxy resins (Weatherley, 1994, p.97-98).

The energy which computers consume during use also caused concern for some activists, especially as this electricity in Britain is often sourced from nuclear power stations: 'no one ever mentions the amount of power needed to keep the telecommunications infrastructure (phones, Net) going' (Richard Weatherley, FoE). Health concerns about computer use were less often voiced, though Mike Birkin (South West RCC, FoE) mentioned the social and health aspects of spending hours in front of a computer screen. Richard Weatherley also identified health concerns about the low-frequency electromagnetic radiation, and radio-frequency interference (as possibly causing cancers and other diseases), ozone from printers, sound pollution, eye strain and stress and strain injuries (Weatherley, 1994, p.97-98).

Finally, many were concerned with the 'throw-away aspect of computers, the built-in obsolescence and people being encouraged to upgrade' (Tony Canning, FoE). The constant updating of computers caused machines to become redundant quickly and their packaging also added to waste landfill pressures (Weatherley, 1994). A Lyminge Forest questionnaire respondent suggested 'there are not many schemes to recycle and reuse them - industry should be made responsible for this excessive creation of waste' (no.21).

## **Resolving the tensions**

Aware of the paradox, many environmentalists have sought to resolve the tensions between their scepticism of technology and their CMC use. The resolution is often a compromise between articulating a justification and employing ways to reduce the environmental impact of the technology.

*'The ends justify the means': Activists' need to communicate*

Many interviewees sought to justify CMC use by arguing that the benefits of using the technology outweighed any environmental damage caused. In other words, the ends justified the means:

It would be somewhat hypocritical to say McDonalds are ruining the atmosphere, ruining the planet and happily go on using a plastic and metal contraption that was made using CFC's ... but I think their use can be justified under certain circumstances ... the environmental unfriendliness of computers is offset to some extent by the fact that they are being used for a 'good' purpose.

(Gideon, McSpotlight)

Such justifications were used by many activists. Their computer use was a compromise in an imperfect world. This attitude reflects the deeper desires of some interviewees for a situation where they did not have to make such trade-offs, but were able to live a fully sustainable lifestyle:

I wish computers had never been invented, I wish the industrial revolution had never happened, I wish everyone still lived in nice little communities and everyone worked on the land ... I know a lot of people can't deal with using the internet because it's the weapon of capitalism ... but pragmatically it's important that people balance any Luddite [opinion] against using the high technology, against the potential benefits of using it.

(Toby, SchNEWS)

Any environmental damage incurred through the use of such technology was furthermore defended by three sets of explanations which all use the pretext that the benefits 'outweigh' the disadvantages: fighting a war of minds; trading-off the environmental damage; and maintaining control.

One of the key justifications asserted for using CMC despite its environmental impact, was the need to be effective in the 'war' that many interviewees perceived they were waging against their adversaries. In order to have any influence in this battle many argued that they had to have effective tools, appear 'modern', that use was warranted because it was only temporary (through this crisis period) and/ or that as computers were available they should at least be put to 'good' use. In this 'battle' CMC has been touted as being able to level the playing field for environmentalists. Using the technology interviewees were able to try and outwit their opposition: 'in some sense it's an arms race ... we feel that we are up against the power of global corporations with all their technical resources ... and to some extent if they are tooled up we've got to be tooled up, we've got to be at least as good as them' (Tony Canning, FoE).

By using the technology of their opponents, interviewees could attempt to 'rupture the system from within' (Bonnett, 1999, p.25), rather than abstain: 'you can't get into arguments about abstaining from things that there are problems about or else you end up being in a cave somewhere weaving your own yoghurt' (Laptop Mike, RTS<sup>23</sup>). Activists have in the past used all the tools available to them when it involved using technology that they were actively campaigning against. This was illustrated during many of the anti-roads protests where 'I used the motorway to get to Twyford Down to protest about the motorway. One has to make sacrifices or else you can't beat them' (Worzel, Lyminge Forest). Consequently, compromises are made in order to be effective, and to be able to communicate their message to as many people as possible:

if you live on the Internet and you want to be campaigner that's a compromise. You've just got to say we are going to be more effective by sharing ideas with people, or opening up peoples' minds to new ideas than we would be by being a good example. Because you can go and live in the country and be sustainable and be wonderful but if nobody knows about it you are not part of the problem, but you are not part of the solution either.

(Chris, (S)hell<sup>24</sup>)

Furthermore, use of modern technology also helps crack the image of activists being primitive hippies living in a past age. As Foley explained, 'these people are media-friendly, technology-literate and unencumbered by outdated ideological baggage' (quoted by Brass and Poklewski Koziell, 1997, p.98). In this way environmentalists can be seen to be educated, intelligent citizens whose views should be listened to. The belief that 'if we didn't have it I think we'd be seen as very behind the times and I think we have to fight that image ... we have to be very careful to be seen using cutting edge technology ... and it also makes us look professional and modern' (Charlotte Cosserat, Information Officer, CAT) reflects a perception of the public as valuing modern technology and respecting those who have skills and act in a professional manner.

A further justification for CMC use was that some perceived themselves to be in a temporary (all be it lengthy) battle. When this battle was won they argued there would no longer be a necessity to utilise CMC<sup>25</sup>. Their current use was only transitory and therefore

warranted in facilitating the progression to a better society: 'I don't think there's a place for them in an ideal world, but I recognise them as an extremely useful tool in creating the world I would like to see' (Devin, McSpotlight). Thus 'the day we get what we want that device goes out of the window' (Michael, EF!). Whether, in fact, it would be possible to ever entirely dispose of a technology which was used in the creation of a society, however, is doubtful.

This argument was also applied on a more specific scale to the crisis period of a protest. Andy (GSN) suggested that those at Lyminge Forest could use computers because it was a short-term action, 'you can't really start laying the infrastructure for a proper community, all you can have is a few benders, a fire, and so obviously you've got to prop it up with other things'. Activists are unable to establish any long term sustainability or community infrastructures while on a protest camp, and thus need to maintain links with wider society. However, if they were able to stay on the land permanently, many suggested they would reduce their use of technology.

Finally, in this battle, some interviewees proposed that it was illogical not to use technology which already existed. Thus, 'we should use existing technologies to our own ends ... the computer explosion has happened anyway, and that we are not promoting it, we're just taking advantage of it' (Steve Jones, CAT). In this way as we are not able to 'un-invent things' (Ben, Lyminge Forest) then 'you have to say, OK they exist, it would be a completely disastrous allocation of resources to try and fight them, there are much more important things to fight like genocide in Indonesia' (Chris, (S)hell).

In addition to being in a state of conflict with adversaries, many interviewees argued that the environmental damage caused by computer manufacture and use could be off-set. Thus any environmental degradation would be balanced by the corresponding energy and resource savings the computers enabled, by not using other technology and/ or that computers did not cause significant environmental damage compared to other technologies. Some activists argued that CMC use decreased the environmental effects of other activities, and thus had energy and resource savings. Energy is saved as 'it's much more energy efficient for me to email Australia than to send a parcel or go there, there's video conferencing' (Charlotte Cosserat, CAT).

Furthermore, paper use might be reduced as information does not need to be posted and the need to print thousands of flyers is reduced<sup>26</sup>. If you compare computer use 'to the pollution of making letters, making stamps, sending a letter and it gets put in a post-box, picked up by a motor vehicle, transported, shuffled around it's much more energy intensive' (Pete, founder and co-ordinator, MO).

Using this justification, activists such as David (Media liaison, NE Green Party<sup>27</sup>) suggested that by not using other potentially environmentally damaging technologies his use of computers was to some extent negated, 'I don't have a video, I don't have lots of other things that people have, I don't have a car to compensate for having a computer'. Dave (GSN) used a similar argument but was more cautious of whether such justifications are adequate, 'I like to get on my high horse and say I've not got a car, so everything else that I do pales into insignificance which is completely untrue but it sort of keeps me happy'.

Furthermore, a few activists argued that placed in the context of other causes of environmental damage, CMC was not significant enough to be a priority. Jessy (McSpotlight) asserted 'computers are such a small part of what you use ... they are so minuscule compared to light bulbs and cars and travel and washing machines'. Similarly Sarah (MO) affirmed that 'we've got to prioritise. I'm far more worried about farming than I am about new technology like the internet'.

Advancing the argument of 'fighting fire with fire', interviewees also asserted that having a certain control over CMC and using it to increase their campaigning effectiveness against the technology's own developers and investors (military and corporates) was productive: 'it's almost better to use the technology against itself and that's kind of a statement in itself to say - I'm using technology but I'm also destroying technology at the same time - and then to use that paradox is something' (David, NE Green Party). Thus they have co-opted the technology for their own ends. This control, to an extent, serves to negate the environmental impacts, because unlike many other technologies to which environmentalists object (such as bio-technology) they are able to subvert, and benefit from its use.

Bob (McSpotlight) argued that environmentalists need to be part of the Internet in order to determine how it is used and help maintain the freedom of the medium from corporate control. Using CMC, Mary (Peace Action<sup>28</sup>) asserted activists were able to 'have a voice in a place amidst all this materialism and worshipping of technology'. Furthermore, some interviewees attempted to avoid aspects of the technology that they disagreed with by customising PCs to make it less like the multinationals intended: 'I'm actually running a form of UNIX on it, which is obviously completely free ... and then you get people using Macintoshes and there's plenty using Amigas and Acorns ... I dislike Microsoft' (Dave, GSN)

#### *Mitigating the environmental effects by reusing, recycling and renewable power sources*

Environmental activists also overcome the apparent contradictions in their use of CMC and their preference for appropriate technology by mitigating the environmental effects of computers. They did this by reusing and recycling components, reducing the energy used by their computers and by using renewable energy sources. Many sought to minimise their consumption of hardware by reusing existing components to construct or upgrade existing machines, or by recycling their disused equipment. For example, SchNEWS relied upon reusing old computers: 'a lot of the stuff that we get is recycled in itself. There's no bit of the equipment in there that's been bought fresh, new. All of its donated or put together from bits of other computers ... so in that sense it's recycled' (Jo Makepeace, SchNEWS).

James (EF!) used skips as his source, 'we do go looking in skips and that is where we found a really good computer recently ... skipping is a good environmentally friendly way of getting computers'. Despite the availability of these recycled machines, however, they were not always of sufficient standard to accommodate the latest software. Thus McSpotlight had to compromise further between their aims and environmental qualms:

There is a bit of division again in McSpotlight between people who think you should keep using the old slow ones [computers] and other people who think we are doing a good service making McSpotlight and if we can do it in less time and more efficiently then its better to get a fast new one.

(Jessy, McSpotlight)

This process of reusing old machines formed part of a wider awareness of all aspects of using computers which are environmentally damaging, such as power sources, printing inks and paper use. Even when new computers were purchased, such as at CAT, attempts were made to use them for as long as possible: 'we've still got ten year old Amstrads, we're still running on 386's on some parts of the site, ... we use computers to death' (Paul Trimby, information service co-ordinator, CAT). Even when their equipment has come to the end of



its useful life for them: 'we get rid of them appropriately, recycle them' (Sarah Jenkinson, former media officer, CAT).

In addition to using recycled components, many try to reduce the energy use of their computers by purchasing energy star equipment, use laptops, or ensure unused machines are switched off. Laptops require less power than desktops: 'we use a laptop, in one sense they are less recyclable, the components are much harder to take apart but they use far less energy' (Charlotte Cosserat, CAT).

Furthermore, Greenpeace, FoE, CAT, Lyminge Forest and MO all used renewable energy sources to help power their computers (and offices) and thus to reduce the environmental impact of their use. Most of the site at CAT is powered by a combination of water, wind and sun which is channelled to provide two currents – one for general use and a precision current which is required for the running of computers. At times, however, load management is required and there have been problems in generating enough electricity to power the computer monitors: 'monitors are very power-hungry and that's why we tend to use laptops, because their screens aren't so power-hungry and it does limit, to some extent, the amount we can expand' (Paul Trimby, CAT).

Many at FoE objected to the speed of obsolescence of computers, the pollution produced during their manufacture and the energy required for use. In order to reduce their environmental impact, FoE continued to promote the use of renewable power sources (and more broadly alternative technologies), the use of environmentally designed computers, the recycling and reuse of computers, the switching off of monitor screens and finally by advocating the use of open systems and not brand products. When purchasing their computers FoE took into account an environmental audit of computer technology conducted by the BUND organisation, Germany. The Acer hardware which they use was the most environmentally friendly computer equipment available at the time of purchase. They therefore attempted to mitigate the effects of some of their use of computers by using, 'the least environmentally damaging companies that we can, although technical considerations are also important' (Tony Canning, FoE). FoE also publicly criticised the computer industry for its lack of environmental consideration, 'we put out a press release at the time that we bought the computers, which was reported in some of the specialist press attacking the very low standard that there is in computing for energy efficiency in particular' (Simon Festing, former housing campaigner, FoE).

Furthermore, FoE has campaigned for the recycling of a variety of goods, 'we've got an organisation campaign priority starting next year [1999] on sustainable consumption and I know that one of the things it's going to focus on is white goods - white electrical goods and PC's' (Susan Pipes, former GIS co-ordinator, FoE). In FoE's London offices 'we try not to be in the three year throw-away cycle ourselves' (Tony Canning, FoE) and they also donate old equipment to charities and schools. Local groups also limited their consumption of hardware. Birmingham FoE deliberately only bought one computer and their other machines were put together from bits of old machines, 'the machines that we use for the most part are recycled machines anyway which would have otherwise been scrapped' (David Blake, Birmingham FoE).

Moreover, in the Green Home Handbook FoE advocated buying computers with the Energy Star rating, and switching off monitors and printers when not in use (Sydenham, 1996). FoE also published The Green Office Action Plan (Friends of the Earth, 1996) which aims to help businesses to reduce their impact on the environment. Furthermore, FoE tried not

to consume too many brand name software products. They used Windows, but not Microsoft Word and advocated the use of open systems.

At Lyminge Forest protest site activists wired recycled computers them up to windmills in order not to use environmentally damaging power sources. Using a wind generator made from 'an old computer hard disc' (Mike, Lyminge Forest) placed on top of a tree house, activists were able to generate twelve volts through a dynamo, 'on a windy day you charge a battery in twenty four hours, a thirty six amp powered battery' (Mike, Lyminge Forest) and recharge car batteries. Enough power was generated to power the camp's laptop, power lighting, CB communications, computers, radio and tunnel ventilation systems (Newsome, 1997; Cramp, 1997; Nuthall, 1997). Those at the camp were also able to use pedal power to provide electricity for a band they hosted and solar power during the summer (Birkett, 1997). At times, not enough power could be generated this way however so non-renewable sources were used: 'in the summer I use solar power to charge up my batteries. During the winter I've either got a windmill ... or I go to the garage to charge up my batteries' (Merlin, Lyminge Forest).

Those at MO similarly attempted to compensate for the environmental effects by using alternative power sources. This was because they were aware of the paradox: 'taking the latest communications technology into a field you run into dilemmas; how do you power it? You could use a generator, but at what cost in pollution? You can't complain about fossil fuels and oil slicks whilst filling your jerry can at the local garage' (Anon, 1997e). They used wind and solar energy to power the office equipment, producing a twelve volt supply which was stored in two batteries in the van and then processed through an inverter (converting 12v DC to 240v AC) to supply the two laptops. In emergencies MO had a hand cranked generator which produced 12v, but had encountered problems with this, as a lot of computers needed 16v and on one laptop 'had to sort of modify the power unit and make it so it's 12v ... but we're sort of getting a good range of 12v equipment together' (James, MO). When MO was stationed at Teigngrace there were too many demands being made of the renewable power, so that 'running the computer and printer used more power than we could get from our equipment' (Anon, 1998f). Despite these problems Pete felt that they had done their best to reduce the environmental impact of the computer, 'it might have polluted the environment in its construction but it's not polluting the environment now, because it's running off a windmill - it's running from an alternative source'.

### **The consequences of negotiating techno-environmentalism**

Interviewees have sought to employ rhetoric or make practical adjustments to the technology to limit the environmental impact of their use of CMC. This has been in response to a general awareness of the negative environmental effects of computer manufacture and use and consequently the paradox that environmentalists recognise. Only a few interviewees were either unaware or did not place value upon, the environmental implications of using CMC. For some, this utilisation has involved being persuaded by the effectiveness of CMC and overcoming their reservations about (and resentment towards) technology. CMC use has also reopened the debate over what constitutes 'alternative technology', to what extent its use can substitute for existing technologies and therefore what technologies are justifiable to use.

Whether the impact (or importance) of the environmentalists' message remains intact despite these paradoxes depends upon the intended audience's approval of the compromises made by interviewees, which is obviously difficult to capture<sup>29</sup>. However, there are four key consequences of the ways in which interviewees have chosen to negotiate the tensions within techno-environmentalism. First, it has confirmed the multiplicity of those within the

movement, but also some common threads of understanding and perceptions about technology between groups which are ideologically and organisationally diverse. Second, interviewees are not anti-technology *per se*, but accept that some compromises have to be made in their attempts to live sustainably in the twentieth century. Neither are they 'anti-progress', many wishing instead to resolve existing problems and help society to progress towards a more sustainable future. Third, the importance of alternative technology (both as an ideal and in practice) is re-asserted at a time when large sections of the British population use some form of technology daily. Not only is CMC compared to alternative technology as the ideal, but some environmentalists attempt to reclassify CMC to suit their own definition of alternative technology. Fourth, the debates about Luddism have re-emerged. Further to the ideals of alternative technology, some environmentalists are more accepting of CMC knowing the level of control they are able to command over its use, unlike other technology such as nuclear power.

### *Diversity and similarities*

The sheer variety of ways in which interviewees sought to justify their use of CMC has confirmed the diversities (and incompatibilities) of those within the environmental movement and has re-confirmed that the movement is not a monolith. For example, while some advocated the long-term pragmatic use of technology, others (often representing more radical tendencies such as Earth First! or direct action advocates) felt only able to utilise CMC in a temporary manner asserting they would dispose of it when they could. Furthermore, while some identified and agonised over what they perceived to be the severe environmental consequences of computer use, others placed no value on this damage.

Despite these diversities, however, there were also some common threads of understanding about technology between groups which are ideologically and organisationally diverse. These groups, such as FoE and SchNEWS can have opposing aims (for reform and radical change respectively) and seek to organise for this change using differing models (hierarchical and non-hierarchical respectively). However, participants from both groups sought to justify CMC use with the need to 'fight fire with fire' and both attempted physically to mitigate the environmental effects of the machines.

### *Campaigning for change, not abandoning technology*

I feel that the bottom line is that, like most of our other activities, modern communications technology pollutes, but that it has some positive implications for the environmental movement and so we should work on making it more environmentally friendly rather than getting rid of it.

(Charlotte Cosserat, CAT)

A far more positive outlook towards technology was detected amongst interviewees than has traditionally been represented in academic literature (with the exception of Pepper, 1996). Not only were interviewees not anti-technology *per se*, or simply pro-alternative technology, but also dealt with the complexities of modern life by not automatically abandoning the use of high technology. Interviewees sought to use CMC in a positive way to press for social change and also to make it more environmentally friendly – illustrating to others how the technology could be put to constructive use and trying to shape future utilisation of CMC.

In this way interviewees were resolving their tensions by seeking a compromise solution. This is similar to the way Roach (1995) has identified women dealing with the

masculine nature of CMC. Although interviewees did not approve of the ways in which CMC had been manufactured (or was used by commerce) 'they redesign the game with new rules' (Roach, 1995, p.138). Environmentalists, just like many women, 'have not adopted the "radical" stance of rejecting participation in computer networks, but have attempted to transform a reality' (Roach, 1995, p.138) in order to benefit from CMC on their own terms. This suggests that environmentalists are also continuing the traditional role of social movements as producers of knowledge (Eyerma and Jamison, 1991). They are often the source of ideas that challenge the processes of the existing societal system. Such ideas are normally articulated through the movement intellectuals, but in this case ideas are expressed in practice by those using the advanced technology. Such activists are leading the way in attempting to convert CMC to reduce environmental degradation and in encouraging the public to use the technology in more radical ways. Consequently the environmental movement is in a position to develop new ways of thinking about computers.

Finally, while encouraging the use of CMC, interviewees also serve to caution the public about over-reliance upon virtual interaction. As Robins (1995) describes, many of the proponents of CMC see cyberspace either as an alternative to society (without the existing social problems) or as a way through which to (re-)create a 'perfect society'. Rheingold's (1994) vision of a new 'social commons' to replace the lost public spaces is a form of virtual communitarianism. This idealisation of community, argues Young (1990), reflects a desire to rid society of difference, asymmetry, antagonism and conflict. In contrast environmentalists reassert the need to remain close to nature, to strike a balance between the virtual and the natural world, to maintain the importance of face to face interaction and thus to value and prioritise the protection of the environment as their core concern.

#### *Reclassifying technology to suit definitions of alternative technology*

In seeking to resolve the tensions surrounding their use of CMC, interviewees have re-emphasised the importance of alternative technology. Not only is CMC compared to alternative technology as the ideal, but to an extent CMC has been reclassified by some interviewees to suit the definition of alternative technology. This is not necessarily overt but many strands of activists' justifications include references to aspects of alternative technology that can be taken to apply to CMC.

The fundamental ethic of alternative technologies is to be self-sufficient, to be constructed within a local bio-region, by locals often using recycled and cheap parts. The production and use of computers is rarely in keeping with such ethics. Computers tend to be produced in mass production factories, often utilising components produced around the world and for the purpose of profit. However, interviewees have identified certain attributes of CMC which equate it with alternative technology. It is becoming easier to use, cheaper to own and requires less energy to run. CMC enables free speech, public access and participation, and can also be constructed out of scrap and adapted to run from renewable power sources. In essence interviewees are able to use rhetoric and practical adjustments to align the technology into a definition of alternative technology.

#### *Controlling the form and utilisation of the technology*

A common thread between interviewees' choice not to abandon CMC technology but to attempt to use it in positive ways, and the potential for CMC to be reclassified as a form of alternative technology, is environmental activists being able to *control* the technology. As Pete (MO) suggests 'a lot of the media and things are very controlled in what they say ... controlled by the advertisers, controlled by the broadcasting standards, and the internet is just open'. This control can be interpreted as the ability to use a potentially environmentally

destructive technology to aid environmental campaigning, to infuse some of their (environmental) values into the technology by physically mitigating some of its environmental consequences or in playing a part in influencing the future design and use of the technology.

Furthermore, the redefinition of CMC as an alternative technology enables a sense of *ownership* over CMC which has not been as possible with other forms of high technology, such as nuclear power or car manufacture. What is unique about CMC is the extent to which interviewees have been able to use the technology against its makers, to physically deconstruct it (either by building computers from scraps, or using renewable power sources) and assert a role in the creation and continually evolving design (by their presence in cyberspace interviewees are part of those who are shaping its continued existence).

This control is also manifest by the increasing use of open source programmes. By freely providing the source of software anyone is able to copy, use and improve it. This not only curtails the need to purchase expensive corporately produced software, but also facilitates innovation in CMC by enabling source code to be written by an infinite number of enthusiasts in a collective project (de Silva, 2001). The international open publishing newswire network of Indymedia illustrates the outcomes of such collaborations (Meikle, 2002). Thus, in contrast to corporate emphasis upon copyright and ownership, activists have benefited from adopting a participatory approach and thus subverted the control of the larger corporations.

At this juncture it is opportune to return to environmentalists' views of technology and in particular interviewees' relationship with Luddite principles. Neo-Luddites (re)emerged in the late twentieth century to oppose the computer, among other technologies. They were sceptical of its advantages and preferred the alternatives (Graham, 1999; Whittikar, 1996; Schwarz, 1997). Amongst these Neo-Luddites are several environmentalists, 'many of us have begun, in recent years, to see industry for what it is. To reject industrial logic and embrace our desires ... down with all kings but King Ludd' (Anon, 1997h, p.65). Notably Bauerlein (1996) identified Earth First! 'monkeywrenchers' to have been the only members of the new Luddite cannon to have actually put their ideas into practice and to destroy the technology they object to.

However, as with the original Luddites of the early 1800s who were not against all technology, but did not want the new weaving looms to destroy their livelihoods, interviewees are not against technology *per se*, but appear appeased by its threat if they have a measure of control over it. Interviewees have managed to negate many of the negative effects of the CMC technology by developing self-built, renewably powered, shared machines, and have thus to an extent pacified some of their neo-Luddite tendencies. By being able to assert control over the technology's production, utilisation and future, the threat that computer technology posed has been reduced.

### **Continuing to question technology**

Environmentalists are using CMC to fight against advancements in other technologies (such as bio-technology) and are thus using one major technological development of the twentieth century to prevent another. Computer manufacture and use also have damaging environmental effects. This has produced a paradox for environmental activists, but one which most are aware of.

In terms of using CMC, there were a variety of attitudes towards it. Some interviewees were sceptical of its use, fearing that virtual communication could take precedence over off-

line interaction. Others, however, adopted CMC, arguing that technology was not intrinsically bad – but that it depended on how it was used. There remains a small neo-Luddite contingent who argue that compared to the environmental and health problems of computers, ‘it is quite insignificant whether some individuals find that the values of a technological society – speed, ease, mass information, mass access, and the like – are served and enhanced by such machines’ (Sale, 1995, p.257). However, the majority justified their use of CMC using either rhetoric and/ or practical measures. Few were anti-technology, not even those involved in radical campaigning. By paying attention to the paradox and personally resolving it, many felt that the purity of their message remained intact.

The measures employed by environmental activists confirmed the diversity of views amongst the British environmental movement, but also identified some main tendencies which unified the different groups. Overall, there was a general trend towards resolving the paradox of CMC use by arguing that the ‘ends justify the means’ and that, wherever possible, attempts should be made to physically reduce the environmental impact of computers. There was a tendency therefore not to abandon high technology wholesale, but rather to utilise what was of benefit to them and attempt to ‘redesign the game with new rules’ (Roach, 1995, p.138). By dealing with the paradox of computer use interviewees also reasserted the importance of the ideals of alternative technology to many within the movement. The modifications to computers that interviewees achieved and the verbal rhetoric of the advantages of the technology, enabled a redefinition of CMC into one which suited alternative technology’s criteria, making the technology more appealing to environmentalists. Finally, the control and ownership that interviewees perceived themselves to have over the technology served to negate some of their fear or resentment they might have had towards it. Whether this control will become constrained with time by commercial and state interests penetration into cyberspace (through commerce and surveillance) will be explored more fully in Chapter 6.

### 3: Inclusivity and changing organisational forms

the constraints to cyberactivism are largely those that hobble other political involvement: commitment, time, money, expertise ... those who may benefit the most from counterhegemonic uses of the Net may have the least access to it.

(Warf and Grimes, 1997, p.270)

In addition to the paradox surrounding environmentalists' use of computers, they face problems in gaining access to CMC. Access is obviously a prerequisite for the use of the technology, but additionally the ways in which activists organise their access may reflect (or contradict) their broader organisational principles.

There is a tendency amongst British environmental groups to promote the need for participatory democracy. There is an emphasis upon the need for inclusion – of themselves - in the political decision-making process and more broadly as a model for an open and integrated society. Such models of inclusive, non-hierarchical or consensus decision-making structures are practised (or at least attempted) by many groups, including the majority of the case studies. In order to practice according to their ideals, this attitude of inclusion should be reflected in environmentalists use of CMC. Yet many groups have to compromise between their principles of inclusivity and the need for efficiency. Environmentalists at times have to moderate their desire for participation by the more immediate pressures of meeting campaigning demands.

The purpose of this chapter is to examine this dilemma - how environmentalists' attitudes towards inclusion is translated into their use of CMC. By analysis of how they have secured access and shared access to the technology it explores the extent to which they are able to practice these ideals or whether their vision is compromised. It begins by outlining the importance of inclusion to environmentalists. It will then explore the ways in which environmental activists have secured access to the technologies, how they have tackled any problems encountered, and additionally whether CMC use has altered organisational forms. Overall, the chapter demonstrates that interviewees' attitudes reflect a desire for inclusivity, but lead to practices of exclusion. Participation is often only extended to those individuals already within the movement or particular movement groups.

The chapter is broadly divided into two halves. First, the patterns of access are delineated and the ways in which access problems are viewed and tackled by interviewees is explored. The second half is concerned with the effects of organisational form on CMC use, and the effects of CMC upon organisational forms.

#### **The importance of inclusion**

One of the core aims of many groups within the British environmental movement is to gain representation of their views within the political power structure. Organisations such as FoE attempt to gain access to, and influence, decision making arenas, while groups such as Earth First! aim to make their voices heard by taking direct action (Doyle and McEachern, 1998; Rüdig, 1995; Friends of the Earth, 1990). Most environmental groups place great emphasis on increasing their (and public) participation in the decision making process (Lowe and Goyder, 1983).

Environmental groups have employed a diverse range of strategies for achieving environmental change (Pepper, 1996). These strategies include alternative approaches to democratic processes (Doherty and de Geus, 1996). For some this has included support for authoritarianism: 'the more democracy is understood to be government *for* the people rather than *by* the people, the more compatible with the objective-driven nature of green thinking it becomes' (Dobson, 2000, p.122). However, others (including the case studies of this book) prefer to promote more participatory forms of governance and organisational forms, promoting decentralisation, transparency, openness and inclusion (Paehlke, 1998). Support for forms of direct democracy is growing (see Budge, 1996). Many, especially anarchists and those involved in DIY culture, try to put their ideals into practice through their own organising by advocating non-hierarchical and informal organisational forms and self-governance at a local community level (Rooum, 1992; McKay, 1998). Importantly, this is not just to ensure an equitable form of organising; additionally, 'activists begin to act as if the world they want to live in has come into existence. Prefigurative politics means acting now as you want to act in the future' (Jordan, 2002, p.73). This is further supported by Melucci (2000) who asserts: 'the organizational forms of movements are not simply instrumental in their goals, but are goals in themselves' (p.95). The way in which this is practised varies, but tends to include attempts at autonomous organisation, consensus decision-making and avoiding leadership.

FoE is slightly at odds with the other cases in this context. Although they claim to strive to facilitate grassroot participation and attempt to minimise bureaucratic structures, this has not always been achieved to the satisfaction of its critiques: 'while looking like "new politics" groups advancing direct democracy through the mobilization of greater citizen involvement in the political process, we would argue that *de facto* there is little in participatory terms which distinguishes them from political parties' (Jordan and Maloney, 1997, p.187). We will explore this point in more depth later in the chapter.

This emphasis upon inclusion has implications for groups' use of CMC. Their desire for participation in political processes may have been one of the stimulants to activists' use of the technology – using CMC to be better able to communicate with politicians and the public. The importance of participatory organisational processes, however, should also be reflected in their attitude to use of the technology. If there is not uniform access to CMC, then the potential to enhance participatory democracy is curtailed. There has been much optimistic rhetoric about the possibilities that greater interaction between citizens and power holders via CMC might result in new forms of non-mediated democracy (Rheingold, 1994; Dahlberg, 2000; Rushkoff, 1994; Gray, 1995; Holden and Szerszynski, 1999). Thus the ways in which environmentalists view and overcome access problems is a useful frame through which to examine what environmentalists really mean when they propose participatory models of organisation.

### **Tackling access problems**

To begin exploring how participation is actually practised it is pertinent to examine what access activists had to CMC and how they tackled any problems of access. These will now be considered concurrently. Access to CMC is not limited *per se*, but is constrained unevenly across the population (Atton, 1996; Haywood, 1995; Angell, 1992). This confines the possibility of CMC advancing the move towards greater participation:

If the facilities and expertise necessary to gain access to the internet are only accidentally available to grassroots groups (which is often the



case), whereas they are structurally available to the institutional forces they face, the use of information technology becomes just another example of structural inequality.

(Dordoy and Mellor, 2001, p.174)

Furthermore, access to more information does not necessarily trigger participation, and more people being able to voice their opinion will not necessarily translate into more participatory forms of organisation (Reid, 1999). As Miekke (2002) discussed, there are a plethora of forms of interactivity on-line, but only one form – conversational interactivity – actually enables open debate amongst several participants. Other versions are more akin to one-to-many forms of communication and thus unlikely to lead to participatory forms of organisation.

Access to CMC is shaped by several constraining factors: finance, location and office space, technical skills and training, technical specifications and support, gender, class and ethnicity, and language. Importantly, access to CMC is about more than access to hardware or software, it is about social agency: ‘a social practice involving access to physical artefacts, content, skills and social support’ (Warschauer, p.10).

Precursors to using CMC are money to pay for access to the technology and the education necessary to use it. These are facilitated by an individual’s social location within society. CMC users in Britain are overwhelmingly white and middle class resulting in a dominant monoculturalism online (Lockard, 1997; Graham and Aurigi, 1997; Jordan, 1999a). Furthermore, British environmental activism<sup>30</sup> remains dominated by the middle classes (Sherkat and Blocker, 1993; Mattausch, 1987 and 1989; Bagguley, 1992). Critiques of the middle class radicalism thesis point out that the environmental movement draws on a mixture of classes, and many of those involved in direct action are working class (Bowlby and Lowe, 1992; Rüdiger, 1995). However, the existence of some working class, or even ‘class-less’<sup>31</sup> people in environmental groups does not necessarily unsettle the assertion that the environmental movement is influenced by middle class *values* or is based upon class politics. In addition to class, the social base of British environmentalism has also been linked to the tertiary educated, white, young, urbanite, and non-religious (Rüdiger *et al.*, 1991a; Tranter, 1996; Witherspoon, 1994). Within this context, those in the environmental movement are in a good position to be able to gain access to CMC. This also highlights the exclusivity of part of the movement which might limit certain groups’ ability for outreach, or reflect a lack of desire for inclusivity.

A division can be identified between the ways interviewees sought to aid their fellow activists (those integrated into the social movement) in overcoming the access problems, and the ways in which interviewees attempted to ensure that their use of CMC was accessible (or non-exclusionary) for the intended audience (those not integrated into movement networks). Whilst the division between these two contingents is fragile and fuzzy, it serves as a useful theoretical delineation with which to analyse environmentalists’ perception of the importance of helping ‘others’ gain access to CMC. The latter of these is dealt with in the following section.

### *The issue of access*

Although many interviewees encountered difficulties in accessing CMC, they accorded differing levels of importance to the problem of access to the technology. The efforts made by environmentalists to overcome access restrictions is also a reflection of the value they place upon the usefulness of CMC. Views ranged from those who perceived CMC

to be accessible only to an elite few (and who therefore saw reliance upon the technology as problematic), to those who thought that access was universal.

Many accepted that the accessibility of CMC was limited and that there were exclusions: 'you're excluding the poor, the off-lined, the people in countries that don't have great internet access' (Gideon, McSpotlight). Without uniform access many raised concerns that debates were occurring on-line which were not being repeated or were not inclusive of those without CMC access. For GSN, having an email list had eased many of their previous communication difficulties but now meant that 'sometimes there's a problem with discussions moving on leaving certain people behind without them being involved in the formulation of certain ideas and plans' (Tristram, GSN). However, overall 'it's still more accessible than anything we could have created any other way' (Dave Morris, McSpotlight). Thus even those who accepted that access was limited argued that this should not detract from its importance as a tool of distributing information to those who were on-line. Others thought that the falling costs of the technology meant that most people would now have access: 'it's getting cheaper and cheaper, and it reaches a point where virtually everyone can get access to it' (Mike Slocombe, co-ordinator of Urban75<sup>32</sup>). Susan Pipes (Former GIS co-ordinator, FoE) argued that: 'it's not that it's just down to those people who've got money ... you're getting internet in schools and libraries, so people can get access to the information'. James (EF!) also noted that CMC 'makes it more accessible to other groups of people because it's an easy to access form of communication, people with speech impediments, dyslexia, people who lead disorganised lives can find it quite easy to use'. Asked why some people did not use CMC, David (Media liaison, NE Green Party) had little sympathy with non-CMC users:

I have very limited patience with people who find the internet and things hard to use, I mean it's common sense ... I think it's an illogical fear of things I don't think there's any real reason to be worried about it or find it difficult to use the web any more than it is to use a telephone.

Irrespective of accessibility, however, many environmentalists identified word of mouth as their most important source of information, and felt that those without access to CMC were not to be concerned with missing anything crucial. Given the access restrictions, many activists stressed that 'you have to remember to offer alternatives ... always keep going back to older methods to address any excluded people' (Ed, GSN). At Lyminge Forest, for example, activists only valued CMC as an important channel through which to distribute, not to gain, information.

#### *Finance: Minimising costs, encouraging donations and fundraising*

Groups and individuals faced different financial costs for their use of CMC. Financial constraints on the use of CMC by environmental organisations are widespread but rarely entirely prohibitive. Although such constraints limit the quantity and quality of CMC organisations are able to provide, there was a general perception that 'the technology has come down so much in price ... that it's now possible for activists to buy, blag, borrow technology and pay for the service' (Toby, SchNEWS). All the case studies sought to minimise the cost of their CMC use by encouraging donations, fundraising and using old and existing equipment. Student based groups, such as GSN or Peace Action, were able to benefit from free CMC provision at most British Universities. Meanwhile as a large NGO FoE was able to find finances to fund use and could afford a permanently leased ISDN line. Moreover, they benefited from donations: 'our web server was donated by Sun' (Susan Pipes, FoE) but drew the line at sponsorship in order to preserve their independence: 'if we started endorsing

people we could get everything for free, but we wouldn't do that' (Tony Canning, IT technical and support manager FoE).

The smaller non-hierarchical direct action groups (such as SchNEWS, Lyminge Forest and McSpotlight) faced the largest financial barriers because they often had non-existent budgets which meant that 'we talked about it for quite a long time before it happened because SchNEWS was pretty skint' (Chris, SchNEWS). At Lyminge Forest locals 'provide much of our food and building materials' (Blue, 1997, p.20) and money was raised through stalls at festivals. However, donations were irregular and the cost limited CMC use: 'I use the internet café, I get ten minutes on it, but it means I can't do long letters back to people' (Blue, Lyminge Forest).

Such costs were thought by some to be a deterrent to use. However, both Squall<sup>33</sup> and SchNEWS moved into producing on-line to help reduce the costs of producing the paper version of their respective newsletters, and activists at Lyminge Forest saw using CMC as reducing some of their costs in that 'it also allows us to do a lot more which we couldn't otherwise afford' (John, Lyminge Forest) such as publishing colour pictures.

Costs were problematic for CAT; its proponents struggled to get CMC prioritised for funding. There was concern that the website did not generate revenue and therefore was a drain not an asset. This debate was re-ignited when CAT were about to be charged for their previously free ISP and proponents had to convince others that the website was valuable enough to pay for. Furthermore, CMC access was uneven. Each department organised its own ISP and modem connection, which multiplied the fees being paid: 'we are all doing it on separate phone lines, so we are paying separate sets of standing charges and separate sets of phone calls' (Charlotte Cosserat, Information Officer, CAT). CAT reduced costs by upgrading existing equipment rather than purchasing new machines, but had to pay for much of their hardware as 'we have had some stuff donated to us, but it's generally fairly old technology, and hasn't been compatible with the newer stuff that we've got' (Steve Jones, former ATA co-ordinator, CAT). Costs were further minimised by relying upon volunteers to construct and maintain the website.

MO minimised the cost of getting computer equipment by using 'tat'; collecting bits left over from actions, sharing people's personal possessions, using donations, asking for payment in kind for work and applying for grants. They returned the favours they had received by donating computer equipment to others: 'we've left some computer equipment with the campaign in Teigngrace in Devon and some other equipment with the campaign in London' (James, MO). McSpotlight used old computers and relied upon people using their own equipment: 'all of the equipment was donated, and everybody worked for free, McSpotlight was initially set up without a single penny being spent' (Anon, 1997k, p.6).

The majority of groups had access to free space for their web sites<sup>34</sup>. FoE had its own server in-house reducing costs (and providing them with more control) and some radical groups also had their own server: 'myself and some friends who have a server which is permanently on the internet, which is paid for by a little bit of slightly more commercial work, and that then hosts all the stuff we want to do politically, so there is literally no cost involved except our time' (Chris, (S)hell). SchNEWS benefited from a free ISP and a free office space (provided by the band The Levellers), and received several donations: 'both the Macs we've been using for three years were donated to us, as was a lot of the other equipment, we've found it really easy to get hold of equipment for free, because of the reputation you know, people love us' (Toby, SchNEWS).

Some moderated use to prevent costs escalating: 'we only go on the web if there's something we specifically need to look for 'cos it's expensive' (James, MO), but costs were also placed in perspective: 'I reckon it is still cheaper to do emails on a mobile phone than it would be to actually send letters' (Pete, founder and co-ordinator, MO).

### *Location and office space*

In addition to financial obstacles, some environmentalists faced physical restrictions in accessing CMC. A lack of communal office space adversely affected groups' ability to access CMC. The larger and better funded organisations, such as FoE, were able to afford work space and computer access for most staff, including their Regional Campaign Co-ordinators (RCC). At CAT, overcrowding of the office space was elevated by the construction of a new information centre. Other smaller groups such as SchNEWS and McSpotlight also had offices. However, for FoE local groups access problems were compounded by a lack of office space. In his appraisal of FoE computer access, Allen (1996) suggested that access to computers was significantly increased if there was communal office space. Many local groups' email access was only through a computer in one member's home which 'led to bottle-necks in the group if information wasn't being passed on, and a burden of responsibility for communicating if it was' (Allen, 1996, p.12). However, FoE local group members also used CMC to overcome the difficulties of meeting communally: 'we communicate using email - thus we don't really need meetings. The email conference effectively becomes a long protracted meeting ... it works really well' (Maurice Spurway, Exeter FoE, quoted in Ritchie, 1999a, p.12).

It is often difficult to run computer equipment in the environments in which protesters operate - 'it's quite impractical to have a desktop computer if you're squatting' (Laptop Mike, RTS). Residents of protest camps, especially those in rural locations, faced significant restrictions in their access to office space. For those at Lyminge, located in a forest, access to the internet was restricted to locations off-site until the final stages of the protest in 1999 and this was reflected in the difficulties activists had in regularly updating their website. A campaign office was established in a flat in Canterbury for a few months, but this was several miles from the forest camp and was only temporary. Thus editing of the website was stalled: 'it's very difficult to get us all in one place me, Merlin, laptop, Dreamweaver [web design program] and a phone line to plug into ... it's been slow' (Mike, Lyminge Forest). Later, another activists' home, in Folkestone, was used for access and by late 1999 Merlin was able to use a laptop and mobile phone to access CMC from within the forest, powering it from car batteries.

A key innovation was the Mobile Office project which made office facilities available to those living on protest sites by kitting out a van and taking technical equipment onto protest sites: 'it's making the facilities open to all sorts of different people so the idea is to bring these sort of facilities and the know-how and all that stuff to places where they wouldn't normally be available' (Pete, MO). Furthermore, activists at Lyminge Forest and MO used solar and wind energy to power their laptops which enabled their computers to be located away from the National Grid. However, physical problems remained in the form of security issues. Kit was lost at each protest and 'people don't respect stuff and so much stuff gets lunched out on protest offices' (James, EF!). At Lyminge it was hard 'hanging on to the stuff' (Mike, Lyminge Forest), which also limited the potential to share the equipment. Being on a protest camp also meant that it was harder to physically co-ordinate editing of web pages or to purchase kit: 'I was down at the A30 [a road protest in Devon], I was on site for nine months and a lot of that time is high eviction and stress ... it's actually getting the ability to leave site to be able to go off and get it a lot of the time' (Pete, MO). In contrast, the majority of

participants of GSN had free access to CMC at University, but only during term time. Peaks of activity on the discussion list occurred mid-term, and troughed during University vacation periods, reflecting the importance of location to accessing CMC.

### *Technical skills, education and training*

Despite increased computer literacy, improved user interfaces and software simplification, skills are still necessary to utilise CMC (Walch, 1999). This need for skills can act as a form of exclusion. There were strong skills differentials amongst case studies and technical knowledge tended to be constrained to a few individuals in each group.

While email packages are increasingly simplified, the skills required to write web pages are becoming more complex<sup>35</sup>. Interviewees had acquired the skills with which to use CMC through different paths. The majority were self-taught and 'you definitely don't need the university thing, I think you just need to be a geek when you are teenager' (Chris, (S)hell).

Individuals had reached different stages of ability and some felt limited by the lack of available training: 'I just sort of blunder my way through it ... it's really expensive to get lessons' (Andy, GSN). Many groups had a small skills base and responsibility for technical tasks fell upon a limited few which placed such individuals into positions of power within a group. At SchNEWS there were only two people who could edit the website, and Toby noted that 'I need to train more people to do it because it's going to fall apart if I don't do that soon'. This fits patterns identified with other technology use where a 'product champion' who has the foresight and skills initially encourages technology use but is consequently responsible for training others (Buchanan, 1993). In some cases (such as at Lyminge Forest) the removal of the product champion results in an interlude in CMC use.

Others identified the divide between 'the computer bods' (Sarah, MO) and those less skilled, as producing a tension:

the conflict remains between the technocrats who know how to do everything and go into their techno-babble in their [e-]mail and say 'oh god its simple' and then other people who feel that these people are excluding them from something they want to be in, they want to hear about all these things but they don't have the knowledge.

(Ed, GSN)

Thus those with the skills often have the onus of responsibility to share them. Groups made efforts to share their skills and have training sessions. FoE had extensive training schemes and advised local groups in how to use CMC. When email was first comprehensively introduced Richard Weatherley (former IT manager) tried to educate FoE staff about it: 'we ran some training courses, I wrote and distributed a user's guide, I ran awareness and discussion sessions at FoE strategy days and conferences, I did presentations, I briefed the Board, I tried to encourage women to use it'. However, even with formalised training schemes 'people tend to sign up for it and then don't turn up ... turn out is often low' (Tony Canning, FoE).

SchNEWS also arranged training days: 'usually once a month ... we teach basic desktop publishing, email skills, internet' (Jo Makepeace, SchNEWS). Toby (SchNEWS) also tried to make sure that people were involved in the website and thus sharing responsibility for it. He was careful to ensure that others could understand the processes by which he had constructed the site: 'whatever you do, think hard about whether others with less skills than

you can take over or join in: skills like WinWord, typing, scanning are easy, but html coding harder, and CGI scripting pretty rare' (Toby, 1997b).

At Lyminge, Merlin and John had the computer skills and they informally taught Mike and others. People would congregate in the flat in Canterbury and share computer tips. Later in the protest Merlin would visit Worzel's house and teach him there: 'I've learnt from Merlin and Mike here and another guy called John ... and we'd just sit around and chat and I sort of picked it up that way' (Worzel, Lyminge Forest).

McSpotlight initially drew inspiration from the N5M events<sup>36</sup>, thus benefiting from the skills of the Amsterdam activists - xs4all: 'they were hosting it and they were telling us all these clever techniques they had' (Jessy, McSpotlight). At McSpotlight those with skills taught those without: 'we had a big pool of people who wanted to help but didn't know bugger all ... it doesn't take five minutes to learn to do basic html, so we soon had lots of people doing that' (Jessy, McSpotlight). Furthermore, McSpotlight were able to benefit from a division of labour by attracting a pool of volunteers with a range of speciality skills. When 'we've come across something we can't do, such as graphic design, complicated programming, someone with those skills has always come along' (Helena quoted in Anon, 1997d).

There is a precedent of skills sharing within the environmental movement, especially in direct action where workshops are used to share skills or individuals learn by example from others. Individuals have a tendency to excel in areas of specific skill, such as tree climbing or media liaison, and often attempt to share their expertise and train others. The few highly technically skilled individuals at the forefront of innovative CMC use also attempted skill sharing. However, teaching complex computer programming is a time consuming and lengthy activity and the most many could do was to encourage individuals to experiment themselves.

Thus, there remains a dilemma as to whether the aim of particular protests is to include as many participants as possible (alluding to the 'logic of numbers') or for those already involved to concentrate on becoming particularly technically adept (as Greenpeace does with its specialist teams of activists). It is hard to reconcile such specialisation with the desire to incorporate more participants because on-line actions become increasingly complicated.

### *Technical specifications and support*

Hardware and software problems further hindered activists' CMC use and, except at FoE, were often left to the individual to solve. Software problems were compounded by many groups' reliance upon old machines. Pete (MO) experienced many hardware compatibility problems when setting up hybrid systems or computers from alternative power sources (Anon, 1997b). SchNEWS were not able to provide PDF versions of their newsletter on-line until 1999 because 'the programme that makes PDFs was actually too sophisticated for the ancient machines that we were doing the SchNEWS on' (Chris, SchNEWS).

CAT was constrained by the incompatibility between computer systems. Some staff were working on Macs while the web site was written on a PC: 'I did get the idea of how to put it on [the website] but in actual fact you struggle to find the software for a Mac to be able to do that' (Sarah Jenkinson, former Media Officer, CAT). CAT additionally experienced problems with the limited number of telephone lines. Staff had to share the modem line with the fax machine and credit card line. Consequently access was only really possible out of hours: 'you have to go on-line at 5.30 when people have clocked off for the day' (Steve Jones, CAT).

FoE employed a full-time IT team, but had difficulty retaining IT personnel (due to the uncompetitive wages they could offer), which contributed to problems of co-ordination and communication. Technical support for regional offices was complicated by distance, but IT staff visited offices annually, used FTP access from head office to check their computer configurations and 'for hardware problems they're on maintenance contracts so we send engineers out' (Tony Canning, FoE). However, the regional FoE offices still suffered from a lack of technical support: 'it's difficult for them to deal with the remote offices. Sometimes things will be down two or three days at a time' (Mike Birkin, South West RCC, FoE) and they 'could really do with some modern hardware at some point' (David Blake, IT systems support, Birmingham FoE). Local groups received considerably less support due to cost restraints<sup>37</sup>, but were offered workshop and training days which included CMC use. Aware of the access problems faced by local groups, FoE ran the West Yorkshire Pilot Project which provided several local groups in West Yorkshire with free CMC access and training (Allen, 1996). The project concluded that many of the IT problems faced were not helped by a lack of IT support from head office. Access to the one computer per group became an issue in local groups, and the use of laptops failed to overcome the problem because it was invariably still controlled by one person and there was no communal office space within which it could easily be shared.

### *Diversity*

Research on gender and CMC has engaged with the possibilities of 'neutralising' the importance of gender or swapping gender roles while on-line (McCormick and Leonard, 1996; McRae, 1997; Wakeford, 1995; Haraway, 1990; Stabile, 1994). Research has also highlighted how women were (though do not necessarily remain) under-utilising CMC compared to men (Jordan, 1999a; Mastrangelo Gittler, 1999; Escobar, 1999). Within the environmental movement there have been eco-feminist critiques of the way in which gender is bypassed as an issue of concern or discrimination (Mies and Shiva, 1993; McKay, 1998). Meanwhile, there remains a divisive patriarchal factor in activism, exemplified by the masculine culture of protest camps (Groombridge, 1996; Walcroft, 1998).

Environmentalists may be faced with access problems to CMC because of their gender or ethnicity. White males dominated the use of CMC. Some women had the skills to use CMC proficiently and had key roles in particular groups' technology use. There was, however, a general lack of female involvement in CMC use in the case studies. This was in contrast to an almost equal representation of both genders in the groups. There was a perception that this was 'because computers have traditionally been a male kind of thing' (Jon Ivar, GSN). In the cases where women have played key roles in CMC, they had done so since the first adoption of the technology by the group, for example FoE (in particular Susan Pipes) and McSpotlight (in particular Jessy). In other cases, males had dominated CMC use from its inception and effectively become its gate keepers. This could inhibit others becoming involved. Asked whether 'if a woman came along then would she be able to help on the internet?', Toby (SchNEWS) replied 'it would be seen as unusual, but she could certainly do it ... I'd really like to hope that she wouldn't be put off by the nature of the people, guys involved who use computers, the nature of the conversations they have'.

Some groups, such as McSpotlight, 'did try and get in as many different backgrounds as possible ... we came against the barrier of everyone who was out there tended to be from a similar background and the networks that we were connected to ... from the inception there was definitely a distinct lack of different ethnic backgrounds' (Bob, McSpotlight). This reflects a general lack of ethnic diversity in the British environmental movement: 'the racial split is endemic of Brighton ... there hasn't been a lot of outreach work to get more people

from ethnic minorities involved' (Jo Makepeace, SchNEWS). It was also felt that any gender or ethnic bias was not a result of the attitudes of the environmentalists as 'everyone involved in McSpotlight is pretty much sort of non-sexist, non-racist people', but was 'more a by-product of the Net than a by-product of McSpotlight in itself ... there has been a male dominance in computing' (Gideon, McSpotlight).

Few groups explicitly sought to balance the gender division in CMC use. At Lyminge Forest, where no women were involved in the website, Mike said that they had asked women if they had wanted to contribute, but that 'not many women want to get involved in the media side of things. They see it as intrusive and they just want to get on with their own things'. Consequently, although females and multiculturalism were identified as lacking in most groups' use of CMC, there were few initiatives to redress the balance. It was argued that women were not interested, or a token woman using technology was held up as an example that there was no exclusion. This is also a reflection of discord amongst some environmentalists of the monoculturalism of the movement (Kala, 2000). Thus, there seems limited possibility that environmentalists' use of CMC would contribute to a questioning of patriarchal dominance, or the development of an alternative social (and gendered) order, as suggested by Escobar (1999).

### *Language*

Finally, language can constrain CMC access. CMC reinforces the emphasis upon use of the written word and prioritises English as the common language (due to its American origins). This can serve to exclude those with other languages or those who are illiterate. In GSN, seventy seven per cent of questionnaire respondents were native English speakers, but Bulgarian, German, Portuguese and Italian were also represented. McSpotlight was the only group to purposely include other languages (by translating the original McLibel leaflet) and by encouraging and linking to anti-McDonalds websites written in non-English languages. Furthermore, the type of language used can constrain access to newcomers, icons in emails - *\*and\*, a\_more, :-), 'do', </sarcastic>* - or activists' slang - *fluffy, spiky, brew crew, lunch-outs, tat* - can be difficult to interpret. Within a protest setting this may become more meaningful to the outsider, but if encountered through CMC alone it can serve as a form of exclusion.

Although some activists were reluctant to use CMC, others felt constrained in their access and this influenced how they were able to use the technology. Most of the constraining factors were a result of the funding limitations of interviewees' affiliated groups. Thus FoE was able to afford CMC access, office space, skilled employees and technical support, whereas those at Lyminge Forest suffered from a limited income and many demands upon their existing resources. Amongst interviewees there was a general awareness that access to CMC was not uniform and most groups stressed the importance of continued use of other communication channels and information distribution methods. Many of the non-CMC users claimed they did not feel excluded and some activists highlighted the variety of ways users could achieve easy and free access if they wanted. In this way, most interviewees considered that it was up to individuals to secure their own access and that access difficulties should not outweigh the advantages of CMC.



## **Creating new avenues of access**

In addition to acknowledging and attempting to resolve the access problems they faced, activists employed CMC as a way to create new avenues of access to information they wanted to distribute. Accordingly, many tried to ensure that their form of CMC use did not unnecessarily exclude members of the intended audience<sup>38</sup>.

### *Using CMC as a way to provide access*

Environmentalists have used CMC as a cheap method through which to reach an international audience. In addition, providing information on the internet diverted enquiries from time pressured campaigners and reduced publication costs. Franny Armstrong (One-Off Productions) organised a global screening of the McLibel documentary (which had been excluded from mainstream television) via email, with the film streamed on the web: 'from just one email message, 104 screenings in nineteen countries were held and we estimate that about eight million people watched the film'.

SchNEWS used CMC to reach a new audience. Distribution via email made it accessible to those who might not have socialised in activist circles (and thus not received a hardcopy). CMC was also used to keep their audience: 'we lose less people I think, people that move from paper to email then stay with us longer than they would have done if they'd had to send stamps' (Chris, SchNEWS). With PDF on their website, SchNEWS further increased their accessibility by making it possible for web users to directly print off formatted versions of the newsletter. SchNEWS also tried to shape people's use of CMC, recommending websites for '*net-diving* rather than net-surfing, so you actually go and dive into particular sites' (Jo Makepeace, SchNEWS).

FoE used CMC as a way of providing public access to restricted government environmental data (Pipes, 1997). The Chemical Release Inventory (CRI) increased access dramatically: 'between 1995 and 1996 the Government recorded 797 visits to its regional offices to get CRI information, and we had over 25,000 individual queries to the database ... so it's a whole magnitude difference of people being able to get this information' (Susan Pipes, FoE).

Finally, CAT used CMC to overcome their spatial access problems. By providing information on a website (including a virtual tour of CAT, information sheets, and an on-line shopping service) and answering information inquiries via email, they were able 'to get our message out to as wide an audience as possible, because not everybody is going to come to mid-Wales ... people can access us from all over the world which is marvellous, we've suddenly become an international organisation' (Charlotte Cosserat, CAT). CAT also used CMC to reach a specific audience - the young, 'the website is going to be perhaps our main route for attracting newer and younger people into ATA' (Jones, 1998, p.2).

### *Simplicity of on-line presence*

Most of the case studies increased their online accessibility by refraining from using complex graphics or plug-ins on their websites. FoE minimised its use of complex features to enable access by people who might be using old browser software or a slow modem: 'in the majority of cases we try to keep away from using frames just because they can be quite difficult to navigate round, but also it bumps up the technology' (Susan Pipes, FoE). Additionally, some services were limited to email to widen the number of people who could be involved, 'Climate On-line is designed as one way to get into environmental activism, and it is deliberately just an email thing as this makes it far more inclusive' (Charles Linn, former

web developer, FoE). Birmingham FoE even built in a facility whereby users with slow modems could download the whole site and read it off-line: 'I want to be as inclusive as possible' (David Blake, Birmingham FoE).

McSpotlight also sought to find a balance between accessibility and innovation<sup>39</sup>. It was 'important for us to try and make the site obviously as interactive and as flash as possible but ... not to make the core ideas and the core content unobtainable, to make it as inclusive as possible on every browser, on the slowest machines' (Bob, McSpotlight). Furthermore, McSpotlight sought to reduce the costs for its audience by enabling the site to be downloaded free of charge or viewed as a CD-ROM which enabled 'unlimited use, free of the constraints of continued Net access, line rentals and connection charges' (Atton, 2000, p.2). Similarly, SchNEWS kept their website 'deliberately low tech' (Chris, SchNEWS).

### *Other methods of distribution*

Most environmental groups continued to utilise a range of methods of distribution to prevent their use of CMC excluding any potential audience. They sought to ensure that 'nothing goes out on the internet that doesn't go out by word of mouth or by flyer' (James, MO). Other methods included leaflets, publications, street theatre, videos, and printed emails and sections from websites. Those at Lyminge 'use as many methods of getting information across as possible and the internet is one of those tools ... people aren't always going to get the leaflets and people aren't always gonna find the website but hopefully between the two you'll get a fair few people will be notified as to what's happening' (Wizard, Lyminge Forest). Others printed emails they received and took them to those without access: 'whenever I got any emails I'd print it out, and take it to [protest] site, and let everyone read it. I wouldn't just email straight back. I wanted everyone to say what they thought and just talk it out, so everyone was involved with using it' (Rachel, EF!).

FoE was also aware of the risk of exclusion and continued to provide paper based materials<sup>40</sup>: 'we could get too reliant on electronic forms of communication and that might actually rule out the possibilities for other people to share the information ... we have to be very conscious of making sure those people are still kept in the loop through traditional forms of communication such as the post and the telephone' (Chris Crean, West Midlands RCC, FoE). There were, however, more publications, in terms of documents and briefing sheets, available on the web than through the post via the publication department. FoE has also focused campaigns upon information which is essentially only available over the internet, such as the CRI and Factory Watch, which could result in exclusions.

### *Providing the access facilities*

While many activists tried to make access to CMC easier for those within the movement, and ensure their use of CMC did not exclude members of the intended audience, few actively sought to provide the access facilities to CMC, as they did not take this on as their role. The exception to this was the Mobile Office and CAT. MO provided access to CMC for activists constrained to living on protest sites and served as a model which they encouraged others to replicate. Part of CAT's remit was to provide information, and within that they included the need to provide access to CMC. This was in contrast to the campaigning role that dominated most of the case studies. Thus, CAT built the Autonomous Environmental Information Centre which housed four public access computers. Although internet access was guided towards specific environmental information (using direct links), it was also possible to access the whole of the internet.

## **Changing organisational forms**

Access can be mediated by membership to a group and CMC use could alter the functioning and structures of an organisation. In groups which might espouse non-hierarchical forms of organisation it is instructive to examine whether CMC is used to strengthen inclusion or contribute to an uneven balance of power.

Access to resources has historically determined positions of power within groups: 'resources have provided positions of relative power, even in a deprofessionalised and biodegradable network .... Throughout EF!(UK)'s existence, groups ... with a strong resource base have influenced the direction of the network in terms of repertoires, organisation and issue-focus' (Wall, 1999a, p.88). CMC could serve to reduce the importance of requiring extensive resources and thus contribute to non-hierarchical attempts at organisation; as Klein stated, for example, 'the Net is more than an organizing tool – it has become an organizing model, a blueprint for decentralized but cooperative decision making. It facilitates the process of information sharing to such a degree that many groups can work in concert with one another without the need to achieve monolithic consensus' (Klein, 2000a, p.396).

Furthermore, CMC might facilitate the flattening of existing hierarchies and help groups to resist the pressure of formalisation by sustaining decentralised forms of communication (Walch, 1999; Poster, 1997; Washbourne, 1999b). With CMC, all users have the facilities to interact with the information and each other: 'hierarchy is irrelevant, because everyone has equal access to the network, and everyone is free to communicate with as few or as many people as they like' (Woolley, 1992).

Bimber (1998) has argued that CMC use facilitates activist group operation without the need for institutional structures. Thus there is 'the possibility of decreasing coherence and stability in interest group politics, as the group process loses some of its dependence on stable public and private institutions' (Bimber, 1998, p.144). The outcome would be more fluid and diffuse groups and networks with a greater ability to mobilise quickly. In this scenario it is the informal groups, who tend to be resource weak, who are liable to benefit most from CMC use.

Yet the potential for CMC use to alter the internal dynamics of groups, such as serving to flatten existing hierarchies, will be reliant upon individuals having access to the technology and not being constrained in its use. The uneven patterns of access between and within the case studies will be reflected in the way in which CMC will impact upon the groups' organisational forms.

This section has three parts. It begins by illustrating that interviewees have used CMC innovatively because their non-hierarchical organisational structures provided space for them to experiment. Second, CMC has enabled a convergence of groups' communications, easing many groups' internal communication problems and speeding up internal flows. In the final section, a negative consequence of CMC use is explored, that some nuclei of control have clustered around its use in non-hierarchical groups. These nuclei ill fit the aims of such groups to organise horizontally. Yet despite this, CMC use has attributed to assisting such groups' resistance to the pressure to formalise and develop hierarchies. In comparison the case for CMC use flattening existing hierarchies remains inconclusive.

### *The freedom to experiment*

McSpotlight, Lyminge Forest, SchNEWS, Mobile Office, GSN and CAT attempted non-hierarchical and fluid forms of organisation, and reflected the broader culture of Do-It-

Yourself, which supports initiative and individual action. This encouraged individual autonomy, expression and experimentation: 'there's no structure ... people can do what they want, they can join one camp or they can go and start their own camp ... there's no leaders, no rules, it's just autonomous, everyone just gets on with it and it works' (Matt, Lyminge Forest).

Without a hierarchical chain of command, individuals were able quickly to grasp the opportunities they perceived of CMC and put its use into practice: 'nobody has overall editorial control so that's given me the confidence to push ahead with the work I want to do. I've just done it, and I haven't got permission off anybody to do what I've done' (Steve Jones, CAT). Although this structure facilitated novel uses of CMC, it also complicated the decisions about website content: 'you're presenting a group that doesn't have a formal decision making structure, ... you have to be in touch with the group to be aware of the nuances of what it is that is the often unspoken consensus' (Laptop Mike, RTS). Such freedom and the dynamism it engenders is especially useful to environmentalists who are able to use the technology in creative and novel ways to capture attention. These opportunities are often short lived as internet innovations quickly become standard and thus lose their attractiveness for mainstream media coverage or as a hook with which to attract a curious public.

FoE has been criticised by more decentralised groups, such as EF! for being too hierarchical. Despite a network of regional campaign co-ordinators and local groups, FoE has been likened to a 'protest business' rather than a democratic organisation (Jordan and Maloney, 1997). A reliance on passive supporters rather than active members has limited participatory forms of organising. Staff, however, were encouraged to participate in organisational decisions and Washbourne (1999b) argues FoE is less of a hierarchy and more an 'unbounded social network of the like-minded'. Furthermore, FoE chose to support the notion of direct action, but not to actively take part (Schwarz, 1994): 'As FoE has established its authority for rational argument, it has distanced itself from the more militant forms of protest. Though civil disobedience and direct action were contemplated in its early days, it now eschews any illegal or disruptive activities' (Bate, 1983, p.132). This distanced FoE from the DIY and participatory culture of more radical groups.

Early use of CMC at FoE was undertaken without formal permission. Theoretically, support needed to be gained through a series of management approvals, but Richard Weatherly ignored the process because 'I would have been chewed out by several management team members'. The eventual need for official funding, and thus application through FoE procedure, frustrated those keen to use CMC in innovative ways: 'it didn't have somebody who was high up there on senior management really being able to push through that we need investment in this. I'd say it just feels like a year of ... not being supported to be able to take it forward' (Susan Pipes, FoE). Funding in such a large organisation, however, required strategy and allocation of significant resources, which resulted in the hierarchical structure of FoE slowing down the adoption of CMC. In contrast, those groups whose structure has enabled rapid and experimental adoption of CMC have often used the technology in particularly innovative ways, as exemplified by groups such as McSpotlight.

### *Convergence of communications*

Internal co-ordination and communication is liable to be facilitated by groups' use of CMC. CMC can help prevent information getting lost or misinterpreted. When campaign offices are located separately from a protest site a split can emerge between the site and office, which could result in communication problems. There was a need for those on-site to be able to communicate their message directly and to receive information quickly, thus

‘having the [Mobile] office on site meant people were informed instantly on what was going on thus avoiding confusion and lost messages. People on site were also a lot more informed as to the facts about the campaign’ (Anon, 1998f).

CAT used CMC to circumvent the distances they had between offices on their seven acre site. Staff used email to communicate internally<sup>41</sup>: ‘it’s actually easier for me to email them, it’s so quick and so cheap for me to send stuff to publications or to education or biology by email’ (Charlotte Cosserat, CAT). This system was not perfect, however, and electronic data was still exchanged on floppy discs when large files need to be exchanged.

FoE’s website helped stem the flow of queries to campaigners by pre-empting many information questions. However, some campaigners were flooded with email requests: ‘you can end up spending too much of your time responding to emails or deleting emails when you should be campaigning’ (Adrian Bebb, Real Food Campaigner, FoE). Despite local activists being encouraged to email campaigners, FoE established a protocol for email use: ‘We cannot enter into debate on email. If an issue needs to be discussed, please phone. We will only respond to emails when appropriate, or when requested to acknowledge receipt of an email’ (Friends of the Earth, 1998c). By encapsulating the use of CMC in procedures and policy guidelines FoE limited the full benefit of CMC. FoEs intranet, however, did ease information sharing between staff: ‘I can access any files, they are all on the same network and if I want to look in one of the campaign team areas and look at their files I can access them remotely’ (Mike Birkin, FoE).

CMC was also used by GSN to ease the communication problems they faced. CMC was a cheaper and more frequent way of communicating with its dispersed participants than through the newsletter or gatherings: GSN ‘had chronic communication problems, in that people would be in touch within their local area, but as a nation-wide figure it just wasn’t together’ (Ciaran, former list coordinator, GSN). Producing and distributing the newsletter had been time consuming and costly. Using CMC strengthened its ability to communicate at a national level and facilitated a more inclusive form of communication, one which enabled discussion between the whole group at all times, not just those at the gatherings or within the core cliques. Furthermore, contributions to discussion were not limited to those who shouted loudest, or were most eloquent, as ‘with email there’s a great leveller, everyone’s got the time, they can spend as much time as they like thinking about it before they reply’ (Andy, GSN). However, many of those on the GSN email list rarely contributed to discussions (according to questionnaire results) and part of the reason for establishing regional lists was the rationale that smaller lists might encourage more people to communicate, thus negating the advantage of GSN being a national list which facilitated national co-ordination.

Thus overall, most interviewees felt that CMC had aided the internal communication flows of their group and increased the speed of these flows from pre-CMC states. In cases where a high percentage of participants were able to secure access to CMC, its use eased internal communication problems and speeded up internal flows. As a result participants were better informed and more included in the daily operations of a group. However, in groups where CMC access was uneven its use resulted in some participants being excluded.

### *Hierarchies: nuclei, subversion and flattening*

In all but FoE, the case studies attempted to organise in a non-hierarchical manner. Despite subverting organisational structures, however, informal or hidden hierarchies developed in many groups; for example, Cindy Harris of CAT argued that ‘in any co-operative there will very often be invisible, latent hierarchies. I think all you can do is have a

formal structure which explicitly doesn't recognise hierarchies ... there is obviously here a hierarchy of people who've been here longest' (quoted in Harper, 1995, p.34).

Specific clusters developed around the use of CMC. There were no chains of command within these clusters, though they did tend to exert control over use of the technology. These nuclei of control primarily developed in response to uneven access between participants in a group, but also as a result of some environmentalists' reluctance to use the technology. These nuclei were often unintentional and some made efforts to prevent their development.

At Lyminge Forest, although six to eight people were involved in creating and maintaining the website, there were essentially four key individuals in control of it – Merlin, Mike, John and Worzel. This was due to access problems but also a general disinterest in becoming involved with the technology. For some, the technology was seen as a distraction from the task at hand: 'I don't think it would matter if it wasn't there' (Red, Lyminge Forest).

As to whether it was easy for others to become involved in the website there were mixed opinions. Di, who did not use computers, thought 'all you would have to do is ask and they would let you'. Ben, however, felt inclusion was not encouraged 'you could if you wanted to, but really Mike and Merlin do it all. When we write leaflets people tend to go round the site asking if anyone wants to help or put stuff on it, but not for the internet'. Merlin refuted this and argued that he tried to make sure that a range of people were involved, he went 'around asking people specifically for that purpose ... if I was talking to people I would often offer. If anyone wanted to contribute they could either dial in on the computer or just write something down and it can be typed up if they don't want to use a computer'. Merlin identified the key problem as motivation: 'it is quite hard to motivate people into actually getting pen to paper' rather than access issues *per se*. However, although the physical access to the website was controlled by a few key enthusiasts<sup>42</sup>, and while they did appear to try to include others and help them overcome their access problems, clearly not all access issues were resolved.

This tension, between how different participants perceived each other's practices, reflects the broader contention of this chapter. Often activists felt they were being inclusive, while others perceived they were being excluded. In many ways 'inclusion' and 'exclusion' are relative: 'access exists in graduations, rather than in a bipolar opposition' (Warschauer, p.10). However, it also highlights a possible contention between interviewees' intentions and their practices. While it is not possible to arbitrate such opinions based on interviews alone, the fact that there is a discrepancy in versions suggests that more could have been done to share access to the website.

At McSpotlight the nuclei influenced what went on the website as 'there is a hierarchy of access privileges to the whole site ... it goes through a chain of checks and approval' (Bob, McSpotlight). Some objected to this form of content control:

the anarchists amongst McSpotlight felt that it was part of the ethos that anybody's opinion is valid and other people on the team thought that the good thing about McSpotlight was that it had an identity and it had a certain style, it had a certain witty tone to it and we needed to maintain that ... it was a sore point and it was never resolved.

(Jessy, McSpotlight)

However, the core cluster at McSpotlight initially made key decisions and then faded in importance: 'once the launch was enacted the core group quickly fell apart and they're still

around but there is no direction or agenda in the same way there was at the beginning and that's extremely intentional' (Bob, McSpotlight). At SchNEWS, while the three key individuals included others' opinions, they also used their influence to stall ideas they disagreed with: 'you can't necessarily expect the web team to do the work of things they don't agree with' (Chris, SchNEWS). However, over time the core group has also gradually become composed of different individuals preventing the same people dominating control over the website.

Similar clusters of control developed in the case studies around other technology or tasks due to skill differentials or access, such as the CB radio or activities such as climbing. These nuclei served as a form of oligarchy and were in essence contrary to many of the groups' desires for non-hierarchical organisational forms. On the whole, however, such control was not viewed by participants as constituting any form of exclusion or as being detrimental to the group.

This was most clearly demonstrated at CAT. Thorpe (who instigated the use of CMC) resigned, leaving the responsibility to Martin Donnelly, a volunteer. Thorpe's absence, Martin's (low)status as a volunteer and the informality of much of the staff interaction (facilitated by the organisation's co-operative nature) together with the departmental autonomy, prevented an oligarchy developing around control of the web site. In fact no one took editorial control. Although technically Martin made many editorial decisions and most staff turned to him when requesting changes to the web site, he had not taken on the role of web site editor and nor is he perceived to have done so by other staff. He was viewed more as the technician than the script writer: 'mostly the text is pulled from the department saying what they do, and publications about particular technologies and they just re-format it in html and put it on the web. So there's very little of it written for the actual web itself' (Paul Allen, Development Director, CAT).

There was, however, a desire at CAT to get more people included in the website. As a result of a growth in its size, CAT had become segregated to the extent that not everybody was able to comment upon all matters as had been possible in the past (Harper, 1995). It had an elected management group that included representatives from each of the autonomous departments. The website required inter-departmental co-operation and agreement, but the management system was not designed for such activities and as a result no one took overall editorial control. Rather than the management team taking on the responsibility, or CMC use triggering an adoption of a less departmentally segregated structure, each department gradually carved out departmental sections of the website and took editorial control of these. Thus, CMC use did not result in an organisational change at CAT, but was used to re-inforce the autonomy of each department.

In this way, some groups used CMC to actually help them resist the development of oligarchies and maintain their non-hierarchical methods. The pressure to formalise – to provide a rigid organisational form able to attract resources, reach a wide audience and present a cohesive image – is felt by many environmental groups (Doyle, 2000). Grassroot or direct action campaigns tend to have a limited existence – either evolving into formal organisations (and thus often a hierarchy) or dissolving. CMC use, however, can ease the resource and communication issues and enable groups to sustain and widen their decentralised networks through cheap and fast international interaction. This helped networks retain their fluidity, dynamism and to evolve according to its changing participants, resisting the pressure to formalise: 'we didn't want it to be formal, we didn't want to be identified as this huge campaign group that was ever growing and eventually turned into Greenpeace online ... the

whole point is that McSpotlight is there for anyone to take along and no one person or group of people are responsible for it' (Bob, McSpotlight).

CMC facilitated groups' growth into an international arena at no extra cost. At McSpotlight email was used to co-ordinate international contributions to the website: 'they were communicated by email pretty much entirely, we never met half the people from around the world that we worked with' (Devin, McSpotlight). CMC also aided activists' visibility through a web presence, even when resources were low or participants few:

There is a tendency for protest nodes to arise, to gather information, offer spaces and resources for activists, and then either to disappear as the protests conclude or to evolve into other campaigns. Activists employing CMC are able to adapt their resources, to continually transform and re-invent themselves with a facility only partially available to print media.

(Atton, 2000, p.2)

Thus, CMC facilitated activists' ability to be involved in multiple projects, maintaining campaigns through low activity periods. For example, McSpotlight is 'not going to be the dynamic and fast moving innovative web site it was when it was first created' (Devin, McSpotlight), but it can remain accessible despite there being few individuals still involved. It has essentially become a virtual protest node that requires few resources to continue. Consequently, through the use of CMC, radical grassroot groups are able to achieve more permanence. This negates the usefulness of large NGOs as central nodes for resource and information provision and encourages the decentralisation of the environmental movement.

CMC could also be employed to flatten existing hierarchies (Walch, 1999). Those at FoE used CMC to ease communication across the national network (head office, regional offices and local groups), via the intranet and within local groups: 'I used to be writing memos and posting them to Underwood Street staff, maybe sometimes three or four memos a day ... now that all just goes via email ... there's no doubt the volume has increased because it is so easy, but it has also replaced a lot of paper based communications' (Mike Birkin, FoE). However, many barriers remained to nationwide communication between local groups. CMC facilitated increased local group communication with head office, but was not effectively used for inter-group dialogue.

Despite information sharing via campaigns such as the FoE's Wild Places<sup>43</sup> website – to which groups would contribute their local information - the importance of the head office was preserved. Most information was still routed via the central office using CMC, which limits its use in strengthening a grassroots network. The hierarchy and linear information flow of the network was maintained rather than the possibility of CMC being used to bypass formal organisational structures. Decentralising power to regions has been aided by a network of regional campaign co-ordinators but much co-ordination at this level is operated through the telephone and face to face rather than via CMC. Furthermore, the way in which FoE's website is constructed also serves to maintain its hierarchical structure. The website content is decided upon in the same way that official published information is sanctioned: through a series of stages 'from the campaign team through the public information officers who invariably re-write it for the mass public. Then at the end of the line I am in charge of the layout on the website' (Charles Linn, FoE).



## **Participatory democracy or elite technology?**

Access to CMC varied between case studies with differing levels of resources, and between individuals in each group or organisation. There remain 'invisible price tags draped all over the electronic scenery' (Lockard, 1997, p.220) which were recognised more readily by some interviewees than others. This limited access to CMC, and the possibility that it is consequently an elite medium, has implications for future uses of CMC, such as the curtailment of mobilisation possibilities. Such non-uniform access has become manifest as nuclei of control cluster around the technology.

The problems of access to CMC pose a difficult challenge to activists, and one which results in those on-line having to compromise their ideals:

education activists should be and in many cases are working as hard as possible to correct this problem of access, even though it does seem almost insurmountable. At the same time, contestational forces cannot wait to act until this access problem is corrected. Only in theory can we live by what ought to be; in practice we must work in terms of what is.

(CAE, 1996, p.28)

Cyberspace was initially touted as being free from the bureaucratic and hierarchical tendencies of existing society. However, many problems of access have yet to be resolved, and technology will not solve the fundamental social problem that large numbers of people find it hard to communicate and take decisions together (Tsagarousianou, 1998; Barbrook, 1995). Far from being inclusive, CMC use could be divisive and increase marginalisation: 'environmental gains made through this medium will disproportionately reflect the needs of the populations who have access ... drawing attention to the environmental problems of well-off communities at the expense of those affecting poorer regions' (White, 1999).

Environmentalists' attitude towards inclusion and CMC can be considered from two vantages. First, it is important to examine the ways in which general access to CMC was secured and access problems tackled – reflecting activists' views on the need to include as many participants as possible in the use of CMC. Second, the ways that activists' inclusion in the decision-making processes of their affiliated group was maintained, altered or improved as a result of the use of CMC is significant – reflecting activists' views on the need to operate their own groups using inclusive organising principles.

### *Principles of participation: between theory and practice*

In theory, many environmentalists, and the majority of the case studies, advocate the importance of participatory forms of organisation and the inclusion of a wide population. In practice, framed through analysis of their attitude to access problems to CMC, interviewees did not always make attempts to include others. This reflects a tendency within some quarters of the environmental movement to purport to be inclusive, while actually practicing exclusivity. Thus, participation and the need for inclusion was often only related to those individuals who were already within the movement or particular movement groups (or cliques).

Many environmentalists concentrated effort into exchanging skills, providing office space, and helping overcome financial restrictions. However, hardware and software problems, and the lack of female and multicultural involvement, and non-English languages

have rarely been explicitly tackled. Furthermore, most interviewees were of the opinion that it was up to individuals to secure their own access and that access difficulties should not distract from the advantages of CMC. This attitude reflects a wider trend in cyberspace, that of 'electronic individualism' (Lockard, 1997, p.222).

This assertion of individual, not communal, responsibility could also be a reflection of the broader monoculturalism of the British environmental movement. CMC use has intensified many traits that were already visible – a lack of diversity and a class divide. Amongst environmentalists in the case studies there was a predominance of white, young and tertiary educated individuals. This is not to say that *no* environmentalists are inclusive - as organisations such as CAT invest heavily in attempting to reach a wide audience - but that some sectors operate as cliques and do little to encourage the participation of others. This might perhaps be in fear that inclusion would dissipate existing solidarities and disperse the network. Furthermore, not all interviewees supported moving towards participatory governance of the electorate as a whole, but rather, they wanted inclusion of their particular demands into government or corporate policy – which could be unrepresentative of the larger population. The ways in which access to CMC was tackled reflects a wider failure in the environmental movement to consider those on the margins and to seek their inclusion.

Overall, there were two key assertions about access to CMC. One, there were those who believed it was vital for as many people as possible to have access to CMC, and therefore saw their role as encouraging others to overcome the barriers to access. One of the goals of such environmentalists was to use the technology before it became commercially commodified, and to assert a role in shaping its use: thus as many of them as possible would have to gain access and utilise it early on. This was reflected by those interviewees who organised training sessions and mended old computers for environmental groups.

Two, there were those who believed that access would remain exclusionary regardless of efforts to the contrary (or conversely that CMC use will naturally increase over time). In defence of the lack of uniform access to CMC, some interviewees accepted that they had to compromise their theories of inclusion when it came to practice. This shows a similar pragmatism to the ways in which the environmentally damaging aspects of computers were dealt with. In other words, it was not environmentalists' responsibility to ensure a democratic society prevailed; rather, their priorities had to be in environmental protection. Furthermore, some suggested that although full access would be desirable it is not essential – activists could illustrate using small scale examples of technology use what would be possible if a more democratic structure of organisation was adopted by society. They could use CMC to highlight the inadequacy of the current system of non-participatory decision-making structures, which in turn could encourage others (even those without access to the technology) to critique the system. This was reflected by those interviewees, who, rather than encouraging the access of others, concentrated upon using the technology in innovative and tactically productive ways.

The tensions between these two assertions are not easily resolved. The former requires significant effort on the part of activists which consumes time which might otherwise be spent campaigning. However if access is not addressed, groups' use of CMC could compound existing, or create new, exclusions. Uncritical CMC use could result in an elite electronic netocracy fracturing any attempts at a heterogenous movement.

### *Internal organisation structures*

The way in which CMC was used internally by organisations, however, appeared overall to facilitate the inclusion of participants in the group, through easing existing communication problems and reinforcing the use of non-hierarchical organisational forms. Without uniform access environmentalists are theoretically unable to benefit fully from the potential of CMC. Their on-line communication networks only extend so far, and others have to be contacted using traditional methods. This means effort has to be duplicated into using an increasing number of distribution channels. However, despite some exclusion of those not on-line (for example in GSN), CMC had eased previous communication problems and speeded up the flows of communication between participants. Moreover, other forms of communication were maintained in most cases (such as telephone, face to face meetings, newsletters), and it appears that more people were included by using CMC than were excluded. Despite the existence of nuclei of control, CMC was used successfully to reinforce resistance against the pressure to formalise and to enable groups to retain their fluid structure. Resistance to the pressure to formalise pre-existed in most groups, but CMC was used as an additional decentralising tool.

This analysis of CMC use by activists reflects a broader schism amongst environmentalists – that of the value of participatory democracy. The debate is one of temporality and effectiveness. While many employ the logic of numbers to argue their investiture in decisions, others have mobilised influence through the moral superiority of their argument. The former requires mass access to CMC, and the latter activists' access to power holders (possibility via their use of CMC).

Tensions exist amongst activists, not only about how to communicate for environmental change, but who activists need to communicate with. The problematics of accumulating the hardware, software, finance and skills necessary to use CMC have made visible once more the juxtaposition many environmentalists face. Practicing participatory democracy can be a slow and inefficient process. Consensus decision making can be difficult with large groups and enabling individual responsibility for action can lead to ineffective protest when a cohesive response is required (for example, in blockading) (Klein, 2001; Jordan, 2002).

The perceived urgency of the environmental crisis tempers activists' ability to be rigorously inclusive. This is demonstrated clearly by the complexity and time consuming nature of training in internet skills. Often such attempts at skill sharing are sidelined by the more immediate demands of campaigning activities<sup>44</sup>. Furthermore, as illustrated by the nuclei of control around CMC use: 'A broad dispersal of power within an organisation lessens the risks of oligarchic domination but also introduces sources of power which are very difficult to control ... [and] ... are not subject to democratic election' (Della Porta and Diani, 1999, p.162). The techniques used to practice participation can also limit the ability of groups to make the most of their skills and knowledge. Jakubal (2002) in reference to Earth First! Elaborates on this:

People use 'good' consensus process to reach a decision that everyone feels positive about.... But good process in no way guarantees good strategy, especially if most of the participants are inexperienced.... What makes this scenario doubly tragic is that often there are experienced people involved, but their knowledge isn't considered valuable enough to listen to in any meaningful way.... Giving

everyone equal air time brings the whole group down to the skill level of the least-experienced individual.... What we've ended up with is an ideology of empowerment that hides a practice of disempowerment.

(p.49)

While sharing skills and operating using participatory methods may be productive in the long run (by widening the movement and establishing alternative democratic practices), the ability to be influential and effective in the immediate term is reliant upon maximising existing skills and knowledge. This strategically involves a focus upon honing activists' ability and increasing a groups' internal efficiency (such as communication networks). Most groups have followed the latter of these with respect to their CMC use. Effort has been exerted to help fellow activists gain access and skills, but this has been tempered by an understanding of the importance of being an effective activist group and thus the prioritising of campaign objectives. Moreover, access resolution has rarely been extended to those outside of existing movement networks, limiting the possibility of new participants.

This tendency would explain the theoretical adherence to ideals of participatory democracy, but an inability to fully practice the methods involved. Most cases attempted political participation (for example, direct action is a direct form of participation) and felt that CMC could aid the mass interactivity required for direct democracy, but only if access issues are more fully resolved. As has been identified since the feminists' critiques of the 'tyranny of structurelessness' in the 1970s (see Freeman, 1970) rarely has a pure participatory form of organisation been practised. Environmental groups have been engaged in a continuing process of experimentation and evolution to move closer to the ideal. Despite its limitations many activists continue attempting participatory forms of organising because 'for all of its often unwieldy forms of co-operation and hidden failures, is important because it makes the future begin' (Jordan, 2002, p.74). CMC use has brought to the fore once more the tensions of balancing participation with efficiency, and short term gains with the need to sustain a movement over time and create a future that activists want to live in.

Using these understandings of how groups operate participation in practice, their attempts to use CMC to mobilise participation and network are explored in the next chapter, chapter 4.

## 4: Mobilisation, solidarity and network cohesion

the fundamental way that we are going to carry on campaigning is by engaging people on the street and talking to people and putting our message over through local media. The internet just adds another medium through which we can get our campaigning message across.

(Chris Crean, West Midlands RCC, FoE)

Mobilising participation is a crucial function of many environmental groups. They aim to mobilise those already within the movement (those already integrated) to join in with the specific environmental activism of their campaign, or to motivate the general public (those who are not integrated) to become involved. The purpose of this mobilisation varies between groups, as do the ways in which they seek to mobilise participants and who they are aiming to mobilise. For example, FoE uses participants both as a source of funding, to support their argument (using their strength in numbers), and to encourage environmental awareness. Similarly, although activists at Lyminge Forest want to attract donations, their key need is to attract activists to the forest to help them prepare defences.

The necessity to mobilise participation for environmental activism reflects a broader issue for society, that of how participation in political life can be encouraged (Walters, 2002). In chapter three the emphasis by many environmental groups upon participatory democracy and the difficulties in practising such ideals through their own organisational forms was explored. This chapter continues this theme but more closely examines how participation in activism (rather than just in CMC use) is encouraged, and specifically the value of CMC to these processes.

While Putnam *et al.*, (1993) has used the social capital concept to argue that increased involvement in social organisations will lead to greater participation of the public in political life more broadly, there is substantive debate about the likelihood of such processes<sup>45</sup>. Putnam outlines each actor is a self-maximising individual who will learn from experience that collective action will lead to increased social capital and 'tangible material and economic benefits' (Walters, 2002, p387). It remains unclear, however, how some collective political activities – such as radical direct action – which are often cast by the media and conservative politicians as destructive of democratic principles and can result in significant personal cost, could be deemed an act of a rational subject attempting to maximise their position within society. He further fails to illustrate how involvement in mundane volunteer groups such as 'bird-watching societies and soccer clubs leads to a high level of civic engagement, democratic politics and high-quality government performance' (Levi, 1996, p.47-48)<sup>46</sup>.

Such interpretations of social capital theory do attempt to resolve the 'dilemma of collective action' that questions why individuals would invest in group activity that might not immediately benefit them using an economic understanding of rewards received. In contrast social movement perspectives of participation are centred more on the socio-psychological aspects. Thus it examines the triggers of individuals' inclusion into activism – that of face-to-face interaction (and accompanying friendship networks) and the use of moral shocks. New social movement theorists especially have focused upon the personal triggers to collective action. Melucci (2000) has suggested that participation can be primarily concerned with fulfilling personal needs of a search for identity and the solidarity gained from being part of a group.

These approaches both place an emphasis on face-to-face interaction as of primary importance. This ignores the possibility of on-line relations generating new forms of participation, and the burgeoning literature on on-line communities (Willson, 2002; Chin and Mittelman, 1997). CMC could be used as an additional tool with which to reach a greater variety of individuals and attempt to mobilise their participation in environmental protest. The degree to which groups will employ CMC is reliant upon the extent to which they perceive the individuals they wish to marshal have access to such technology, and the effectiveness of their existing methods. CMC has the potential to facilitate cross movement or cross cultural interaction, enabling the sharing of ideas, and perhaps boosting feelings of solidarity. It could also act as a new method through which like-minded individuals could connect to each other (irrespective of spatial distance), help form a (global or local) united consciousness and mobilise participation around a specific issue (Schwartz, 1996 and 1998; Boncheck, 1995; Alam, 1996; Stefanik, 1993). CMC could also be a useful vehicle through which to reach the wider public, frame education about environmental issues and encourage them to participate in an interactive debate (Walch, 1999; Kellner, 1998).

As the nature of protest diversifies to include CMC and activists network with each other through new forms of communication, then the concept of an environmental 'movement' may also change. Furthermore, if relationships could be built between a greater number of individuals and groups through CMC, then there is a possibility that more democratic models could be organised, facilitating environmentalists' goals of participatory democracy. All of these possibilities, however, are reliant upon CMC enabling productive forums for communication and interactivity.

These debates are thus explored in this chapter through four key sections. It begins by appraising how interviewees used CMC to mobilise participation. Second, the use of CMC to assist (international) networking and thus the organisation of environmental activism is detailed. This is followed by an examination of the impediments against using CMC for mobilisation and networking. The final section draws together the implications of CMC use on interviewees' ability to mobilise participation and concludes that rather than mobilising new cohorts of participation, CMC serves to strengthen existing networks.

### **Mobilising participation through CMC**

CMC has been used by several of the case studies to mobilise participation not only in addition to existing methods but in order to overcome some of the limitations of these methods – such as enabling a wider audience to be reached and at reduced cost. There were five key processes through which the cases attempted (and often succeeded) to mobilise participation. They were: using CMC as a gateway to activism; to raise the profile of their campaign; mobilising on-line activism; stimulating local activism; and attracting participants to existing protests.

#### *Mobilising participation without CMC*

Before this on-line mobilisation is explored, however, it is useful to briefly summarise how groups mobilised participation without CMC. Although environmental groups acted for different ends, and thus needed to mobilise participation for a variety of activities (such as illegal direct action or legal leafleting), they utilised a similar repertoire of methods to attract recruits. There is a predominant reliance upon distributing requests for mobilisation through existing movement networks. These networks are traditionally accessed using word of mouth, magazines, newsletters, and flyers. Those not integrated into such networks are reached

through stalls in high streets and at events, publicity through the mainstream media, leafleting, and sometimes in the case of larger organisations, advertisements. For example, FoE traditionally sought to mobilise participation by providing accurate information and encouraging individuals (and their local groups) to act upon it. This information was distributed through leaflets, the subscribers' magazine (*Earth Matters*), the local group magazine (*Change Your World*), through publicity stunts, via publications and press releases.

Those at Lyminge Forest sought to attract participants (and supplies) to the forest, raise public concern and generate media coverage. To mobilise participation activists spread news through word of mouth, underground literature (such as *SchNEWS*<sup>47</sup> and *Earth First! Action Update*), press releases, leaflets and telephone trees. The activists present at the forest had themselves been mobilised through word of mouth<sup>48</sup>, leaflets, and underground publications. Mike (Lyminge Forest), however, identified difficulties in attracting participants to live in difficult conditions, though for some this has become a lifestyle choice:

you are going to be dirty, at some point, cold, wet, you are expected to work hard, you are relying on other people's charity and your own wiles to get what you need ... how many people in these days of body deodorant and fast cars and going out clubbing ... want to come out and get dirty and wet and possibly cold and get paid nothing for it?

#### *Gateway to activism*

CMC enabled groups to advertise their location and aims to an international audience. This provided a gateway to activism for potential participants and a starting point from which they could join. Using the technology activists with limited resources can provide more visible and numerous entry points to activism than has traditionally been possible, and thus has the potential to mobilise greater numbers. The use of CMC may also hold particular promise in attracting new participants previously unconnected to any other activist group. Traditionally, gaining access to protest information involved knowledge of the existence, and source of, underground publications or personal contacts. Now such information is more easily located on web pages and is even periodically linked from many of the British news corporations' websites (such as BBC on-line). *SchNEWS*, *McSpotlight*, FoE and GSN have utilised CMC for this purpose.

Chris (*SchNEWS*) believed that the electronic publication of *SchNEWS* had managed to attract a new audience: 'a lot of people that were just looking [on-line] casually have started to say, "hey this is really good, can you send me it every week by email", we win them over. You can kind of build up a loyal following'. One of *McSpotlight*'s aims was to stimulate public debate about McDonalds, and their on-line debating room acted as a route through which individuals could become more involved in the campaign, for example Gideon (*McSpotlight*) 'I didn't volunteer, I got invited, I was a regular poster [to the debating room] and they said would you like to help out'. Keogh (1996) also noted that unlike EF!, RTS and FoE whose websites appeared to preach to the converted, or merely offered 'a window into the home of a community, rather than an open door', *McSpotlight* 'nurtures a like-minded community by arguing a case rather than bludgeoning with rhetoric'. This increases the possibility of non-integrated individuals becoming involved. The site was specifically structured to be accessible and easy to use by the public, using a fresh and innovative design, with site maps, introductory tour and a search engine to help new users around.

FoE used CMC to extend its traditional attempts to encourage membership and by providing environmental information which they hoped would stimulate concern and

subsequently action. FoE were able to trade on the reputation of their name to attract those curious to their website, but they also advertised its location on flyers. Access to the website was facilitated by reportedly having 4,000 links from other sites (Charles Linn, former web developer, FoE). In 1998 the website attracted over 20,000 visitors a week (Friends of the Earth, 1998a) and 'is beginning to be considered as a comparable mechanism to print, in terms of numbers, of getting in front of the public' (Charles Linn, FoE). FoE provided a number of entry points for newcomers through which they could become active. However, the website had yet to serve as an effective vehicle for encouraging membership, though the numbers donating on-line were increasing<sup>49</sup>.

FoE also provided a window onto several campaigns using innovative aspects of CMC. FoE used its website during the A34 Newbury bypass campaign ([www.foe.co.uk/action/newbury](http://www.foe.co.uk/action/newbury)). They incorporated a clickable map of the proposed bypass with hypertext links to descriptions and photographs of the threatened areas (Schofield, 1995). There was also an online petition for people to sign to stop the road. Launched in June of 1996, the Java Virtual Car ([www.foe.co.uk/car](http://www.foe.co.uk/car)) was a fun interactive guide to the environmental impacts of motoring. The user was able to make sounds by beeping the horn or patting the dog, to sit at the wheel or look under the bonnet. Each action produced information about the environmentally damaging effects of cars.

The GSN email list could also act as a gateway. Email simplifies the process of first getting involved with activism, especially if networks are fluid and changing:

I get quite a lot of emails from people all over the place saying they want to get involved ... its easier than when you've got old publications like with a PO Box address and you don't get a reply and you don't know whether that's because they haven't bothered to reply or because they've moved. At least with an email you know you're in contact with somebody.

(Andy, GSN)

Although two thirds of participants were introduced to GSN through face-to-face contact, a quarter were introduced through a website (though not necessarily the GSN site as the email list is advertised on other sites)<sup>50</sup>. Thus CMC may have provided an important entry point to activism for these individuals.

In these ways CMC, and in particular websites, offer a gateway for potential participants into activism, which may have been harder to locate before the use of the technology. It is, at this stage, however, difficult to discern how many actually appeared to become mobilised through the provision of such information, and the low number of those who joined FoE on-line indicates its limitations.

### *Raising their profile*

Using CMC to raise the profile of their campaign activists were able to indirectly aid their attempts at mobilisation. CMC was used as an additional form of advertising, which 'tripled SchNEWS subscription' (Chris, SchNEWS). More significantly, however, their often novel use of the technology triggered media attention. National newspaper articles, and sections of television programmes were devoted to the use of CMC at Lyminge Forest and McSpotlight (see Nuthall, 1997; Ineson, 1999).



### *On-line activism*

Not all cases attempted to mobilise participation in activism directed off-line. FoEs Climate Change on-line campaign, launched in August 1997, was an email network of individuals who, at the command of FoE, sent out personal emails to world leaders attending the UN Climate Change Summit in Kyoto urging them to protect the environment. It is difficult to judge what contribution on-line campaigns such as Climate Change has made to FoE political lobbying capabilities and the response was disappointing for campaigners: 'We should get 50,000 people involved in theory, but we have got 2,000 so far. But a lot of these are very active ... when we ask them to do something about eighty five percent of them do it, which I think is really quite a high percentage' (Charles Linn, FoE). Although FoE was the only case study explicitly to encourage the use of CMC as a medium through which to take action, other examples do exist, and this is investigated further in chapter five.

The results of a Supporter Survey undertaken by FoE in November 1997<sup>51</sup> further illustrated that despite eighteen per cent of FoE supporters using the internet or email on a daily basis and there appearing to be a strong level of 'active' support amongst supporters (with sixty per cent sending off a postcard and forty six per cent having written a letter) only three per cent have sent an email as part of a FoE campaign (Friends of the Earth, 1998d).

### *Decentralisation: Stimulating local action*

A key way in which participation was mobilised was through the distribution of information to stimulate the co-ordination of locally based activism. Using an international medium, McSpotlight, FoE and GSN sought to provide information which was relevant to local populations so that they could use such knowledge in their area. McSpotlight contained practical advice on how to lobby against multinationals and links to local groups. It included versions of the original defamatory leaflets translated into twenty languages to print off and hand out and 'loads of campaigning materials for campaigning in traditional ways - placards, slogans and posters, and all sorts of other stuff that people could take off the internet and take back into the real world' (Devin, McSpotlight). The website also advertised what actions had occurred and therefore ideas for future ones such as subvertisements of McDonalds' adverts. Email was also used for information dispersal: 'the global McLibel list server now has 3,800 people subscribing to it' (Dave Morris, McSpotlight).

FoE facilitated local participation through the provision of local data, and encouraged local groups to get connected and use CMC to co-ordinate. Although FoE had often placed an emphasis upon mobilising participation at the local level, many of its campaigns had been run nationally using national data. Websites such as Wild Places and Factory Watch<sup>52</sup> enabled data to be provided at a macro scale, a task that had previously been prohibited by cost.

The Wild Places campaign was specifically aimed at encouraging local action to save Britain's diversity and expand support for a UK Wildlife Bill. The website ([www.foe.co.uk/wildplaces](http://www.foe.co.uk/wildplaces)), aimed to empower people by providing accessible information about Sites of Special Scientific Interest (SSSIs) and the threats to them (Juniper, 1997). On the website the user is able to create a map of their local SSSIs by entering their postcode, search for a particular SSSI or update the website themselves with information. FoE were also able to gather new information from locals who interacted with the website information, 'for Wild Places we've asked people to write in and tell us what's happening to their local SSSIs and we've have fourteen instances that we've actually been able to verify, or correct, that's new bits of information over the web' (Susan Pipes, former GIS coordinator, FoE). Providing such information over the internet made local information accessible to people in a way that

could not be served by other methods: 'we did a report on SSSIs and it was two inches thick and we gave it away to twelve people, and then we put the same information on the web ... in the first six months we had 7,000 what we calculate as different people, coming to look at the website' (Susan Pipes, FoE). Placing databases of information on the website has enabled local groups to generate their own locally specific data. Local groups have benefited from greater access to this specific information, which in turn is likely to have helped mobilise them to launch local campaigns.

FoE relied upon their local groups to undertake local activism, and used CMC to encourage them. They do this by providing contact details and linking to the websites of the local groups from the FoE website, thus advertising their existence to potential members and each other. FoE also use CMC to communicate with local groups, thus enabling those groups to receive information quickly, as opposed to through the bi-monthly newsletter. Birmingham FoE felt they became increasingly co-ordinated in their campaign approach due to the regular information they received through email from national FoE and other groups. However, not all local groups chose to utilise CMC. Although Chris Packham (former coordinator of Newcastle FoE) received a lot of information from his RCC via email, he preferred to communicate by telephone and face to face<sup>53</sup>: 'Unless people meet face to face they won't know what is going on really'.

FoE also used email for Campaign Networks, which are issue specific networks for members of local groups. FoE UK benefits by translating national campaigns into a local context and giving national targets local relevance. Local groups benefit by having a channel through which they are able to interact with campaign teams at national FoE.

Through the West Yorkshire Pilot Project FoE attempted to facilitate the development of a decentralised network of local activists to take action locally and nationally using CMC. Email was used as a tool for organising campaigns, exchanging news, draft and re-draft reports, requesting help and for an electronic fax facility for contacting the local press. The main benefit that CMC was perceived to have, however, was on perceptions of a West Yorkshire group identity, which in turn mobilised members to support campaigns (Allen, 1996). In addition, Mike Birkin (South West RCC, FoE), was developing a South West regional website on which local groups' activities would be regularly updated facilitating co-ordination of regional action.

FoE also initiated an information campaign about the risks of genetic engineering which stimulated local action ([www.foe.co.uk/camps/foodbio](http://www.foe.co.uk/camps/foodbio)). On the website FoE included the map grid references of all UK genetic engineering test sites. Although it may not have been explicitly FoE's aim, direct action groups used the information to locate test sites and destroy the crop, and it was so effective that FoE was accused of giving direct protestors too much information.

Through GSN participants would attempt to mobilise each other by posting requests for help with protests or campaigns. Keith thought this information acted as a trigger: 'exchanging information can extend to organising actions, in that you'll get a couple of people who'll want to organise a coach from an area of the country up to some event somewhere else, and that should spark things off. It's a catalyst anyway' (Keith, GSN).

For many participants GSN was not the first place they had heard about respective actions, that was often via word of mouth, but the email network did provide more details about such actions. This potential to mobilise was also reflected in the topics of discussion. The most talked about topic<sup>54</sup> was 'local group actions, meetings and gatherings', which indicates that participants were keen to actively mobilise.

As GSN participants are involved in various campaigns and groups in addition to GSN, it is difficult to determine whether it is GSN which has mobilised any of this activity. Three quarters of questionnaire respondents take part in demonstrations and a quarter have lived on protest camps which suggests that the network includes several very active environmentalists. The experience and convictions of these individuals is likely to contribute to the usefulness of GSN as a space within which to exchange skills and to mobilise: 'the amount of people is not so important, but it's the people who happened to be on it ... those people were the people that were prepared to go to actions, go to demos, were publicising' (Toby, GSN).

#### *Attracting participants to off-line protests*

Actually stimulating participation in existing protest (rather than the creation of local action) is likely to be one of the most difficult aspects of mobilisation because of the additional barrier of distance. At Lyminge Forest CMC was used in addition to the traditional methods of mobilisation to attract participants to the forest. Although activists were attempting to reach a wide audience and encourage general support, they were also trying to reach those already within, or sympathetic to, the movement as they were most likely to become involved. This could be achieved through the existing network ties and communication structures, but CMC was faster than newsletters and more able to reach a wide audience than word of mouth: 'it helps a lot having the website because you are just reaching people, people who are like minded and doing the same kind of thing ... basically they are activists' (Blue, Lyminge Forest).

It is likely that potential participants would hear about the protest through several of these channels. Furthermore, even if individuals had only heard about the protest through CMC and then visited the forest, they may have already been integrated into movement networks. Of those on site few had heard of the website before they had arrived in the forest. While some questioned its usefulness, arguing that word of mouth was the main way of getting information out, others, such as Merlin (Lyminge Forest), argued that the internet had been a useful mobilising tool, 'I know of quite a lot of people who visited the forest because they had heard about it over the internet'. Jani also cited email discussion lists as a trigger source of information for many who had subsequently visited the forest and for her own involvement: 'I wouldn't have been involved in any if it wasn't for the net ... I was on an email discussion group and [an activist] actually emailed that group, UKPagan, and said that there was a protest at Lyminge' (Jani, Lyminge Forest).

Webpages acted as a form of confirmation of the protest and Blue (Lyminge Forest) noted: 'I know people were using the information on the internet because people were using the maps [to locate the protest] which were really useful, it saves having to do mail outs by post'. Email was particularly used to spread eviction alerts and thus act as a back up to the existing telephone tree, if, 'there was an eviction imminent ... you could phone all round the country and ... at least half the people you phoned wouldn't be in .... You use email and then it gets around and it snowballs, it's not just the people that read it but they'll pass the message on' (Worzel, Lyminge Forest).

The demographics and opinions of those who viewed the Lyminge Forest website can also be used to infer what potential the website had for participant mobilisation. The website readership can be inferred from the questionnaire results<sup>55</sup>. The demographics of this readership<sup>56</sup> reflect those traditionally likely to become involved in environmental activism – predominantly young, university educated, with occupations which provided free time (such

as fulltime education) and with seventy two per cent based in Britain (thus making it plausible that they could travel to the protest site).

Some eighty six per cent of respondents said they were very interested in environmental issues and many actively took part in a variety of environmental activities, with thirty two per cent taking part in direct action protests. It is also significant to note that forty one per cent of respondents *first* heard about the protest via the internet. Of other sources, word of mouth accounted for the second highest percentage of seventeen, higher than through local news or magazines. Thus, word of mouth (through protest networks, or those living locally to the protest) continues to play an important role in the spread of information about protests. Sixty per cent of those respondents who initially discovered the protest through the internet found the website by following a link from another page, and twenty eight per cent by specifically searching for it. This reaffirms the importance of advertising one's website and obtaining links from other sites, and supports the notion that networks which link together the various autonomous environmental protests exist on-line, meaning that once one protest link is discovered it is easier to become informed of others.

Of the twenty three per cent who had contributed to the campaign, a range of activities had been undertaken: eighteen per cent visited the site, thirteen per cent supplied food, and eight per cent had donated money. Of the seventy seven per cent of respondents that had not contributed to the campaign, forty three per cent expressed an interest in visiting the site, with nineteen per cent interested in living on site. Although it is not possible to determine whether any of these respondents did in fact contribute to the campaign in this way, it does illustrate a significant potential for action and there also appears to be potential for on-line actions which enable website readers to bypass some of the physical restrictions (such as distance, time, money, commitments) which might have been preventing them becoming more involved. The respondents' demographics and beliefs (in that forty seven per cent believe in taking direct action) are suggestive that many have the time and motivation to participate in a protest such as Lyminge Forest, in other words that the website is being read by an appropriate audience.

Lyminge Forest provides the only example through which participants were mobilised using CMC to actually attend an existing protest. However, its success and the demographics of its website readership hint at a pattern which might be replicated elsewhere. Bob, of McSpotlight, said of his experiences at a demonstration in London that 'a few of the people there weren't online, but obviously it went out from there, the people online were the nodes and it went out to the tree', illustrating how on-line information was feed out to those who were off-line, mobilising a range of participants.

Although there is evidence that CMC does have a role, it remains difficult to discern its exact significance in mobilising individuals involvement in particular protests and campaigns. It is also the case that the majority of those interviewed had either become involved without the use of CMC, or CMC had (by their admission) only played a peripheral role to their engagement.

### **Modifying relationships: global linkages, accelerated interactions and forging new coalitions**

Email has been an absolute revolution in terms of communication. It is *the* method of communication among environmentalists and other social activists world-wide and it can make a awful lot of difference to who can be an activist, how well connected you are, how quickly you can react to events.

(Devin, McSpotlight)

In addition to mobilisation, CMC has been used by interviewees to facilitate networking and to boost solidarity amongst activists. Using CMC as a networking tool interviewees were able to share solutions and ideas and draw strength from each others' support, interact more quickly, and mobilise some assemblage of international participation in their campaigns. Overall, CMC increased the efficiency and strength of pre-existing network linkages and enabled new connections.

*Drawing strength from (international) linkages*

CMC has been used by activists to create, or reinforce existing, linkages with other groups – both nationally and internationally. A key benefit of using CMC was the boost to morale received from communicating with other activists: 'it's good to know that people are doing other stuff similar to you elsewhere and it's good getting support because it's not just five of you versus the great motorway monster. There's lots of people all over the place all doing it and all having varying degrees of success' (Dave, GSN).

The news of others' successes served to encourage interviewees to continue in their campaigns and as a source of solidarity with activists, even if they were in disparate locations. McSpotlight and Lyminge Forest used CMC to generate international support<sup>57</sup>. Interest from abroad resulted in visitors to Lyminge from Canada, Germany and Poland: 'I think from an international point of view we get a lot more connections ... during last summer a lot of the visitors were saying "hey we looked at the website" and these tended to be European' (Mike, Lyminge Forest).

This interaction correlates with Warf and Grimes' (1997) assertion that using the internet to establish links between struggles internationally may boost morale of the protest and 'reduce activists' feelings of isolation' (p.268). Even when visitors do not materialise from these interactions, 'it is encouraging to see other people from the other side of the world doing a similar sort of thing' (Merlin, Lyminge Forest). This was particularly important for places where few individuals were actively involved such as small FoE local groups: 'that can be quite an isolating experience, so just being able to be in contact with this whole network of people round the country doing something like you must be really supportive' (Susan Pipes, FoE). Such interaction enabled interviewees to feel that they were part of something bigger than their own campaign.

CMC use also facilitated communication between groups or individuals that were physically or ideologically distant from each other. CAT used their website to overcome physical distance, attracting an international audience, 'requests for pages from the CAT site have come from all corners of the earth – from Iceland to New Zealand, Mexico to Hungary, Jamaica to the Philippines' (Anon, 1998i, p.4). GSN participants were able to bypass the problems of distance in order to connect with like-minded individuals: 'having access to at least an email dialog with so many million people around the world you end up with twenty or thirty that you can actually get something together with which wouldn't really happen in Brighton' (Andy, GSN).

At FoE, despite efforts (by RCCs and the West Yorkshire Pilot Project) to encourage local groups to develop networks between each other, there were limited examples of success. FoE's use of CMC has, however, enhanced the relationship between local groups and head office by facilitating better exchange of data through sites such as Wild Places. This site enabled local groups to update head office quickly with the local situation – making FoE overall a more responsive and informed organisation. Consequently, local groups have

gradually taken on a greater role within the FoE UK network, though this is not entirely due to the use of CMC but was part of a shift in the organisation as a whole (Washbourne, 1999b).

McSpotlight also facilitated the international connection of like-minded individuals who had been campaigning against McDonalds in their own country. It served as a point of amalgamation for all the information individuals had been collating and drew together activists from a range of movement backgrounds, further facilitating cross-movement and international interaction: 'It's making protest movements feel like they are international ... it's really being felt within activist circles that we are part of a global movement against capitalism and neo-liberalism and it's enabled boundaries to be crossed over' (Devin, McSpotlight).

Thus CMC eases interaction between groups or individuals who might be ideologically distinct. This is most evident for FoE who used CMC to interact with some of their critics - especially radical direct action protesters. The provision of the GM test field locations on their website enabled direct action protesters to locate the crops to destroy. FoE is officially opposed to the use of such illegal action, but was able to indirectly help radical activists achieve their goals. A further example of the use of CMC by FoE to communicate with other organisations was the development of the URGENT (the Urban Regeneration and Greenfield Environment NeTwork) website set up by Simon Festing (former housing campaigner, FoE). It was a separate autonomous site from FoE and had information from a variety of different organisations, including direct action groups: 'it's basically about a spirit of co-operation because one of the lessons we learned from the anti-road movement was ... Friends of the Earth ... needs to co-operate with other groups, and it needs to be seen to be doing that in a way which is not pushing our weight around' (Simon Festing, FoE).

Furthermore, the anonymity of CMC has enabled groups that may not normally meet to discuss issues, and small protests, to be picked up more quickly by the bigger organisations because of postings on email lists which both receive:

it's helped information sharing between groups I mean it's quite easy now for example for Earth First! to find out what Friends of the Earth is doing, there's not this kind of secrecy and problems of thinking what the hell are they up to ... it's helped internal co-ordination in the environmental movement.

(David, Media liaison, NE Green Party)

### *Sharing solutions and exchanging ideas*

CMC has been a valuable part of the process of interacting both with new contacts and in increasing the interaction between individuals who are already acquainted. These relationships facilitate the use of alternative tactics or solutions, and aid the inclusion of more individuals' opinions into debates within the environmental movement.

The facilitation of communication between distant entities made it easier for individuals or groups to encounter alternative practices and ideas, which could aid problem solving:

by using the internet you can see that other people have the same sorts of problems and then have completely radically different ways of solving them ... it's made people able to interact more with people in other countries and get hold of more information and probably introduce new ideas, more cross fertilisation of ideas.

(Rebecca, Newcastle Community Green Festival<sup>58</sup>)

It also highlighted other causes for concern, 'you pick up on other peoples' experiences, like social injustice and Third World debt' (Dave, GSN). This interaction 'enabled me to communicate with a large number of people, and with a wider spectrum of the environmental fraternity ... its given me a wider view of the world' (Ed, GSN).

These processes of learning from other movements and groups have always existed, and are not reliant upon the use of CMC, but the technology has reduced the cost and increased the speed of these interactions – contributing to a potential increase in exchanges. This cross-fertilisation of ideas also occurred as an indirect result of using CMC. Those at Lyminge Forest attracted international visitors to their protest partly by having a website. On arrival activists shared skills, and learned from the visitors, continuing cross-cultural interaction.

In addition to encountering new acquaintances with whom to share ideas and skills, CMC strengthened communication channels between individuals already associated. Participants of GSN were particularly enthused about the ability to have regular contact with associates and extend the number of those involved: 'its more in speed of information and low cost information to the people who are involved in a group and building up a kind of periphery to that group as well' (Tristram, GSN). CMC created 'more regular forums for prolonged debate which has made me more thoughtful and a more skilled strategist and communicator' (Richard, GSN).

This debate was not only between disparate individuals, but was possible at any time and continuously. For Zoe, GSN was a connection into a space where like-minded individuals were continuously engaged in debate: 'its changed the time basis of it to some degree, it's not that you can only go and be an environmentalist here at that meeting, at that action, with those people, now its anytime that I am in my office, on my computer I can just go and say some stuff or find out some stuff'. Thus, CMC has contributed towards opening up the opportunities for interaction with other environmentalists – across previous temporal and spatial constraints. McSpotlight also sought to encourage on-line debate through its Debating Room, which at its peak received a hundred contributors a day from a variety of international participants<sup>59</sup>. The specific usefulness of such on-line debate, however, can be hard to determine. While linkages can quite easily be made using CMC, the value of debating forums is dependent not only on how they are designed (in terms of the extent of interactivity) but on the aim of the debate and its participants. In many forums it is doubtful whether real dialogue or discussion occurs over CMC: 'in Usenet political discussions, people talk part one another, when they are not verbally attacking each other. The emphasis is not problems solving, but *discussion dominance*' (Davis, 1999, p.177, italics added). Thus for this debate to be productive it required commitment from participants to focus on constructive exchanges. This issue is dealt with in more detail in the following section.

The consequences of these opportunities for increased (on-line) debate are twofold. First, CMC has enabled individuals' ideas to be distributed more freely and quickly consumed within the environmental movement. Its relative anonymity, interactivity and ability to transcend physical space meant that increased numbers of activists were able to contribute to debates and put forward ideas. Consequently, for those on-line the possibility of a more participatory model of involvement in formulating environmental activism develops, given the evident difficulties of having constructive debate via CMC.

Second, CMC enabled in-depth communication about tactics to occur between a wider range of individuals before an event. Such interaction may have meant that more individuals were willing to undertake actions, perhaps developing their own autonomous actions, because

they had taken a personal part and thus had personal investment in the organisation of the event.

### *Accelerated interactions at a lower cost*

One of the greatest advantages of CMC is the speed at which interaction can occur across vast distances. This rapidity enables improved networking ability, response times and ease of information gathering. This was to prove useful in co-ordinating global protests, such as J18, where the rapidity at which interaction occurred across vast distances, facilitated networking, the ability to call for participation and to the building of momentum of the actions. Using CMC news of international actions could also be spread quickly via email, 'if there is something in Nigeria or the United States, you can find out about it very very quickly and communicate in real time with people' (Ian Willmore, Media Unit, FoE).

In addition to existing methods, CMC eased the process of keeping environmentalists up-to-date about events, 'it is one way of keeping supporters regularly informed about key news from the campaign' (Dave Morris, McSpotlight). It was particularly important for those collating newsletters: 'we would not have the degree of international coverage and, because of the price of phone calls, national coverage because of the speed and the sheer amount of stuff that people can send us from round the country' (Toby, SchNEWS).

CMC was a particularly quick way to inform about forthcoming actions, and thus increased some interviewees' ability to respond to national calls for action: 'On GSN I was finding out immediately about stuff going on round the country which I would have found out about after they had happened normally, and although I didn't go to many things I was kept much more on the ball of the momentum of things' (Mary, Peace Action).

This ability to put out calls for participation, right up to the last days before the action enabled activists to utilise one of their greatest assets on a larger scale – spontaneity. In particular email, rather than websites, was purported to be more useful to activists in enabling fast international communications. Whilst websites played a valuable role by providing a notice board on which issues can be posted, email was fast and accessible to more individuals. Email was used 'as a sort of update and alert type medium, but also for just discussing issues and planning strategies and planning events and actions. The web we tend to use ... just as a place to put information for the general public, not really used as much for a networking tool' (Devin, McSpotlight). An added virtue of email was that it 'it goes direct to the person, you haven't got to persuade them to go to your website ... also of the way people forward it' (Jessy, McSpotlight), which extended the reach of email posted information further.

### *Global solidarity*

The relatively low cost of interaction via CMC and the speed of communication exchange, enabled some interviewees to believe they were more able to act at an international level. Environmentalists were able to provide solidarity for international struggles which might be reflected in their choice of campaigns. Furthermore, McSpotlights' high profile success served as a blue print, triggering replicas for other campaigns world-wide.

In addition to this support and exchange of ideas, CMC has been used to help co-ordinate global protests. As 'activism's going more global ... it's the cheapest fastest way of getting information between the countries' (Jo Makepeace, SchNEWS). Tristram (GSN) argued that CMC enabled small anarchist groups to co-ordinate global protests, whereas previously only the larger lobbying organisations would have had the money and contacts necessary:



I can imagine how, if you're Oxfam, you could co-ordinate something globally without the internet but if you're Reclaim the Streets or Zapatistas that is not really an option in the same way. Although it is expensive and it does disenfranchise some people who can't afford computers, in other ways it is quite democratic and it does allow people to contact large numbers of people for relatively small costs, so I think June 18<sup>th</sup> probably wouldn't have happened without internet technology.

One of the main aspects of J18 was its global scale. Actions were organised simultaneously on an international level, which would have been significantly harder, slower and more expensive to network and achieve without CMC. Despite the organisation of some global protests such as J18, protests against the WTO in November 1999, and other actions in Gothenburg, Prague and Genoa, international interactions were more often than not used to assert the importance of specific place based campaigns. This use of CMC reflects what Washbourne (1999a) terms 'translocalism' – using technology to reach an international audience and mobilise a global consciousness, while simultaneously reasserting the importance of the local. This is also exemplified at Lyminge Forest where an international audience was contacted in order to affirm the importance of a small forest in Kent.

Overall, interviewees suggest CMC use contributed to modifying existing relationships with other British environmental groups and international activists. Many of the networks had pre-existed, although new connections were also being made, and through these some interviewees felt more able to undertake international action.

### **Impediments to the usefulness of CMC**

There were significant impediments to the use of CMC to mobilise participation and in developing new global linkages, in particular access and security problems, a resistance to reach out to a new audience, a trend towards 'desktop' activism, the lack of ties fostered by on-line participation and a reliance upon non-CMC interactions and networks. In particular, the poverty of on-line engagements has significant implications for the possibility of creating conditions in on-line environments that are conducive to encouraging participation in a productive form (rather than endless or divisive discussion).

#### *Access and security*

The use of CMC to mobilise participation is dependent upon access which is unevenly distributed. Furthermore, even those with access were sometimes restricted in how often they could use CMC, which reduced the usefulness of the technology, especially for advertising forthcoming actions. At Lyminge Forest, one of the main problems identified by the website designers was the inability to update their website regularly. Mike felt that if it had been more dynamic and interactive then users would linger on the website longer and perhaps be intrigued enough to get involved in the campaign. As it was, the website did not form a focus for camp information, and thus was perhaps less useful for mobilisation than it might otherwise have been. In addition to access problems, some interviewees were concerned about the lack of security when encouraging or co-ordinating actions using CMC. As will be explored in chapter six, some activists sought to limit what information they posted on-line, impeding the usefulness of CMC for mobilisation.

### *A diffuse audience*

A characteristic of alternative media or reliance upon word of mouth, is that information only reaches a specific audience. By posting information to a website, however, a wide and diffuse readership is immediately reached. Even email messages are forwarded to multiple discussion lists and membership of these lists is often not moderated. Thus mobilising via CMC engages with a diffuse audience – an audience who may not be immediately sympathetic to the environmental cause. Some felt that the audience could become so diversified that it prevented any cohesion arising from on-line interactions, with all communication becoming lost to debates, rather than organising action. Richard was concerned that GSN did not have a sufficiently strong student-specific agenda as its identity had been diluted by the mixed participation of the list and thus the topics of discussion diversified. The risk of trying to co-ordinate actions using such a diverse list is that consensus will never be reached disagreements arise which never end and can dominate the list. Though this holds potential for a wider range of individuals to be mobilised, some interviewees did not want to engage with this wider (and sometimes hostile) audience. Dave (GSN) used to take part in the newsgroup uk.environment but: 'I gave up on it thinking well there's no point, I'll never convert these people to my point of view, I'm wasting time arguing with them that I could be doing something useful'.

In this way CMC can paradoxically also contribute to a narrower, not broader audience being engaged with: 'the danger with things that you do through email groups is that you are only preaching to the converted' (Tristram, GSN). This is because 'the attraction of much of the internet is, in fact, in finding a like-minded virtual community' (Perry and Leigh Vanderklein, 1996, p.359). This is to the detriment of interacting with new audiences. This was confirmed by Jim (1999), who argued that on-line environmentalists:

apparently labour under the illusion that, having clicked on 'send', their thoughts have been widely disseminated to activists interested in the topic(s) under discussion. They haven't. They've been circulated only within a very small bubble of the educationally and financially privileged floating in the internet ghetto.

(p.8)

Furthermore, although email distribution lists which posted national news about environmental activism enabled more individuals to be kept up to date, there were also complaints that lists such as ALLSORTS (run by RTS) became dominated by southern events from London, indicating a difficulty in maintaining national lists which are still relevant to a wide audience.

### *A reduction in activity*

While interaction through CMC has resulted in some off-line activism, several environmentalists identified that using CMC has meant that they are paradoxically now 'less active in real life' (Lyminge Forest questionnaire respondent, no.20). In this way David (NE Green Party) argued CMC enabled a false feeling of activism, 'it's probably made me less of an activist, it's so easy to find out what's going on that you feel involved even if you're not actually doing anything'. Other interviewees found that the sheer amount of information they received via CMC, and the international nature of much of it could reduce empowerment, which curtailed the impulse to take action: 'it's a massive list these days, dozens of articles every day and I don't have time to keep up with them all ... and it's quite scary some of the things you find out ... and it's got to the stage where I think, I'm so powerless I don't have time to do this' (Dave, GSN). The value of reducing activism to an on-line presence was also

criticised by Froehling (1997) who juxtaposed it with the actual needs of those for whom the campaign was meant to aid: 'In Chiapas, people are daily hurt by the conflict, through lack of resources and mistreatment, resulting in injury and death. Displace war into cyberspace, and these details retreat' (p.304).

### *The poverty of on-line engagements*

A key hindrance to the use of CMC to mobilise participation was the poverty of on-line engagements. Interpersonal relations can be difficult on email, on-line involvement can be transitory. Personal interaction on-line is often based on 'thin' understandings of identity and limited commitment can be made to on-line transactions (Kolko and Reid, 1998). Some interviewees felt that interpersonal relationships via email were hard to develop without any visual or voice interaction. Merlin (Lyminge Forest) was concerned about the 'friends' he had made on-line, though this did not prevent him continuing to communicate with them: 'you can't get to know someone through communication in cyberspace because with email you don't even get to hear their voice ... I've had friends that I've only met through cyberspace, not met in real life and it's a bit worrying in a way 'cos you don't know what they're like really'. Andy (GSN) found that the technology encumbered his ability to build up a relationship with someone: 'its like their disposable people, you can just sort of go "Oh well I haven't got time for that lot there" and you just delete them'. This risk of being disposable hinders feelings of solidarity developing between individuals interacting on email lists. In this way people can concentrate more on having instrumental relationships that provide self-gratification, but with little consideration for the consequence for the on-line 'other' (Schofield Clark, 1998; Willson, 2002).

This lack of commitment reflects not only a lack of investment in on-line relationships, but also a lack of trust of reciprocity. Crucially, this undermines a key component of mobilisation. Both the economic and socio-psychological models of participation stress the necessity of trust to further political activism (Walters, 2002). Putnam's (2001) emphasis upon physical involvement suggests he is cautious of on-line possibilities that may not foster trusting relationships, but which might actually contribute to the further alienation of individuals from their communities.

Furthermore, Andy found that people had few qualms about posting harsh criticisms on-line which could put people off contributing to some lists: 'they all lay into you really badly ... I think you are more likely to get criticism over email, people might not say anything to your face' (Andy, GSN). This confirms Hartley's (1999) predictions that people on-line would behave in a less orderly manner and be more inclined to be rude, abusive and antisocial.

This lack of concern for others' opinions returns to an earlier point about the value of on-line debating forums and discussions. If on-line discussion become dominated by the personal desire to speak rather than listen, seek to achieve personal goals rather than work collaboratively, then there are few mechanisms available with which to refocus the purpose of the forum. Many email discussion lists have been abandoned due to excessive off-topic or divisive postings. CMC is, in many ways, not well suited to collective projects. As Meikle (2002) affirms, on-line activism is often akin to speech – not always reasoned and often unfinished and ongoing. In this context it can be extremely hard to delimit such conversations or ever reach enough consensus to move forward with decisions or coordination.

Furthermore, many email contacts are temporary: 'very often you get an internet address or an email address, and you email it, and it bounces back and it's gone' (Rachel,

EF!). Moreover, although on-line activism helped individuals not present to take part in the action, it also enabled them to contribute without engaging in the movement, a form of spectatorship. Charles Linn (FoE) found that it was difficult to build up a relationship between those doing on-line actions due to a lack of information about them, which affected what on-line actions it was possible to mobilise: 'we need to look at how to get people involved on-line. We also need to look at how to store data of peoples' interests efficiently, email addresses alone are not really enough, we need more information'.

Without the fostering of friendship or solidarity their involvement is more likely to be transitory and without the necessary long-term commitment to achieve many of the environmentalists' goals. Thus on-line interaction has reduced the importance of distance but also reduced the necessity to commit. Finally, the fundamental differences between disparate groups are not overcome just by using CMC. Although CMC eased the processes of communicating between groups, and the possibility of finding some common ground, it did not mean activists would necessarily form bonds of friendship.

#### *Reliance upon non-CMC interaction and networks*

Despite the use of CMC, traditional methods of mobilisation were maintained and CMC only used as 'a contribution but not a replacement of traditional campaigning' (Devin, McSpotlight). This was because many doubted (perhaps with due cause) the effectiveness of CMC alone to trigger mobilisation. Most interviewees cited word of mouth as the source of most of their information concerning environmental activism, and friendships and face-to-face contact as triggers to their initial involvement. Ben (Lyminge Forest) kept up-to-date 'through the underground press mainly and word of mouth. Now I am on camp it is purely by word of mouth. When I leave site I try and pick up SchNEWS or something, but most of the time I hear about things from people'. Such experiences reflected their views that: 'social change will only come when people create mass face-to-face movements and make decisions that way and the more people focus on technology, in fact the more alienated they are going to become from their communities and their immediate environment' (Dave Morris, McSpotlight).

In this way SchNEWS used CMC to reach a wider audience, but maintained their existing audience by using their traditional methods of distribution. Similarly, the anti-McDonalds campaign had been in existence ten years prior to McSpotlight and means other than CMC had been used to distribute the information. Dave Morris (McSpotlight) counselled that: 'you can over-exaggerate, a website doesn't replace direct distribution of information to the public and in this country alone three million leaflets were handed out during the case direct to the public'.

The limitations of relying upon CMC was illustrated by GSN. GSN had a loose organisational form that was hard to maintain due to the regular turnover of students leaving University. CMC helped ensure GSN's continuation, in that 'the mailing list seems to keep a few people together' (Keith, GSN), however the network gradually became reduced to a virtual existence (as newsletters and gatherings became unnecessary channels for communication). Without these traditional methods of organisation it became increasingly difficult to attract new students to the network as there were few signposts left to its existence.

However, face to face contact was rarely relied upon by activists as the sole source of information, just as CMC might not be regarded as a totally reliable source of information: 'people don't treat emails quite as seriously as they treat something if its printed ... any lunatic can send out thousands of emails telling everybody something's going to happen, but

it doesn't mean that they've got a competency to organise it' (Tristram, GSN). For some, it was the combination of using CMC and word of mouth which was aiding support for actions and campaigns, 'information gets lost when you just use word of mouth' (Mary, Peace Action).

Most individuals will respond only to information which they receive through a reputable source, thus trusting the source is vital to mobilisation. This has traditionally been assured through word of mouth networks or inclusion within reputable newsletters. Thus activists draw upon the solidarity created by the movement networks to ensure mobilisation and the distribution of accurate information. The anonymity offered (and utilised by many environmentalists) by CMC is counterproductive to this need for trust and solidarity (Breslow, 1997). Overall, word of mouth appears to be the key way that solidarity and cohesion were maintained.

### **Strengthening the ties that bind**

Groups employed CMC in a variety of ways to mobilise participation: using CMC as a gateway to activism; to raise the profile of their campaign; mobilising on-line activism; stimulating local activism; and attracting participants to existing protests. The results of such efforts, however, were hard to discern because of the use of multiple methods to attract participants and were to some extent mitigated by impediments to the usefulness of CMC such as the poverty of on-line engagements.. CMC, however, has been used by interviewees to reinforce the strength of existing network ties by facilitating the modification of relationships between activists on an international scale, helping the interaction of ideas and skills, enabling greater debate between larger numbers of individuals and diverse groups, and increasing the speed at which communications could take place.

#### *Mobilising integrated individuals*

Most cases did to some extent attempt to mobilise non-integrated individuals using the moral shock tactic; for example, through FoEs' Factory Watch, and McSpotlight's facts about McDonalds. Significantly though, many used CMC to reach those sympathetic to and already within environmental networks. As illustrated at Lyminge Forest it is possible to mobilise, via CMC without face-to-face contact, those who are already integrated into the movement (or similar movements). CMC is simply a quicker, cheaper and more global method of utilising these networks and has strengthened these existing network ties by easing the passage of communication between dispersed individuals (also see Norris, 2001, who asserts that on-line resources are most effectively used by those who are already active off-line).

In all cases, although a wider audience not previously linked into the networks was also contacted there was no evidence that participation resulted, only that it was easier for such individuals to obtain the information. However, information alone, except in occasional examples of moral shocks, is unlikely to trigger mobilisation. FoE has been able to create a virtual linking of individuals who will act electronically when requested to do so (through, for example, the Climate Change campaign), but they did not attract as many participants as they had hoped and the potential for off-line collective action seems limited.

Such patterns suggest that the value of CMC varies according to the types of resources that organisations are attempting to mobilise (Diani, 2001). Organisations mobilising mainly professional resources using CMC, such as FoE, are able to create virtual communities, but this does not affect mobilisation potential. In contrast, organisations mobilising mainly participatory resources, such as activists from Lyminge Forest, rely more upon face-to-face

interaction and thus CMC results in virtual extensions that maintain the importance of the existing network ties. Thus the importance of non-CMC methods was retained.

### *Sustaining networks, not building them*

While the potential to mobilise using CMC alone appears limited, its use has facilitated the speed of the information flow within the network, and enabled this network to widen without extra costs: 'word of mouth and phone calls are still there, but [CMC is] creating a stronger network, both in this country and internationally' (Jo Makepeace, SchNEWS). In addition, CMC use has enabled new possibilities for co-ordination across theoretical and tactical divisions within the environmental movement and between social movements. This increases the ability of activists to network on a global scale and for wider social movements to emerge out of such coalitions. Although the reality of mobilising a truly global environmental movement has yet to materialise and problems of having productive discussions on-line remain, CMC has facilitated the existing networks that were reliant upon word of mouth and strengthened them by providing an additional (international) communication channel.

In this way, CMC has also provided some sort of permanence to these networks. Although email addresses can change and websites become out of date, several interviewees noted that email was an easier way of keeping in touch with activists who had no permanent home: 'if you are moving around a lot you can have a Hotmail mailbox on the web, you can read it from anywhere from anybody's computer ... it's cheaper than having a mobile or a pager' (Chris, (S)hell). At Lyminge Forest, contact was maintained with protesters once they had left the site through email, as Worzel (Lyminge Forest) commented near the end of the campaign: 'most of the serious protesters have moved on but keep in touch with us by email and the internet'. Similarly, email provided permanence to the entity of GSN, which without it may have dissolved years earlier as fewer people took on the responsibility of organising the gatherings and hard copy newsletters.

This ability to use CMC to network internationally holds greater potential than the possibilities of mobilising participation on-line. This network 'allows the movement to be diverse and coordinated at the same time, to engage in a continuing debate, and yet not be paralysed by it, since each one of its nodes can reconfigure a network of its affinities and objectives, with partial overlappings and multiple connections' (Castells, 2001, p.142).

One of the consequences of this increased interconnectivity could be a decentralisation of the movement – as the need for large resource-rich organisations might diminish, and smaller more grassroots groups could maintain a greater presence using CMC. This would also appease those interviewees who criticised the bureaucracy of large scale NGOs and stressed that the 'real engine of the environmental movement in Britain is grassroots, it is individuals and small, local based organisations' (Steve Jones, former ATA coordinator, CAT). This decentralisation would enable a more heterogeneous movement to emerge as more influences are included through small-scale groups or linkages are made informally between individuals – as involvement in the environmental movement would not require membership to a large and homogenising organisation. This emphasis on a growth in transnational environmental networks also points towards the possibility of a global civil society, or at least an improved public sphere.

CMC also reduces the need to have large budgets to co-ordinate global actions. If activists are able to secure access, they can use CMC to strengthen their existing non-hierarchical networks, operate using decentralised co-operation, and mobilise quickly and

cheaply those within the movement. However, most of the case studies, far from organising global protests, were more concerned with asserting the importance of the local and promoting small scale local activism. Furthermore, for the time being, large organisations are valuable for their ability to launch large-scale public information campaigns, fight court cases and for parliamentary lobbying.

At present CMC has been used as a supplement to the many media already employed and environmentalists have transferred much of their information onto the new media, using email networks in much the same manner as they utilised word of mouth and networks of telephone trees. While, this does not negate the importance of CMC – which is enhancing movement cohesion, the ability to co-ordinate campaigns, and facilitating better informed activism it does suggest that there remains plenty of potential to develop more innovative forms of interaction.

Although CMC seems unlikely to mobilise new participants for the environmental movement, it serves to strengthen the ties that bind the movement together. This is despite the limitations of on-line communication. Productive discussion are feasible in small email discussion lists or ones where there is a strong commitment to a collaborative goal and a respect for fellow participants<sup>60</sup>. CMC is used to help sustain movement networks, not build them, but consequently the movement is liable to grow in its ability to work together, or at least have knowledge of each other's activities and ideas.

In these ways CMC use has informed understandings of participant mobilisation – principally that face-to-face interaction remains paramount, but that other possibilities are continually being experimented. Not only does analysis of CMC use reiterate that information provision alone is unlikely to lead to action (even through the use of moral shocks), but that the 'depth' of social engagement is also crucial (exemplified through the poverty of much on-line interaction). This has implications not just for environmental groups but also for public participation in political life. In addition to being able to mobilise participation, CMC offers significant potential to develop new on-line tactics and new forms of alternative media, as will now be discussed in chapter 5.

## 5: Electronic tactics and digital alternative media

One of the key potential uses of CMC, in addition to its use for mobilisation and co-ordination of activism, is as a tool of protest in itself. CMC could be used for more than the distribution of information, but as a tool with which to lobby adversaries, undertake hacktivism or as a conduit for alternative media.

Environmental activists have utilised a variety of tactics in order to assert their influence upon the decision making process and society. Such tactics have included lobbying politicians, using the judicial system, manipulating the media, encouraging local participation and taking direct action (Doyle and MacEachern, 1998; Jordan and Maloney, 1997). Groups have placed different emphasis upon using these tactics, or using a combination of them. For example, Earth First! advocates non-violent direct action (NVDA) and Friends of the Earth UK used a mixture of all these tactics (Doherty, 1998; Lamb, 1996).

Direct action protesters use a variety of methods through which to publicise their cause or prevent environmental destruction taking place: on-site protest camps, barricades and blockading, tunnels, tripods, walkways between trees, tree houses, lock-ons<sup>61</sup>, office occupations, street parties, and genetic crop destruction (Doherty, 1998 and 1999a; Evans, 1998; Seel, 1997). Underlying these is an emphasis upon non-violence, a 'manufactured vulnerability'<sup>62</sup> and carnivalesque performance. Protests such as the Reclaim the Streets events are as much about protest as dramaturgy, celebration and revelry, creating a spectacle of alternative ways of being (Szerszynski, 1998; Chesters, 2000b).

Furthermore, Arquilla and Ronfeldt (1998) have conceptualised the growing use of CMC by political actors as being part of a 'social netwar'. They describe how actors can use CMC to target important nodes in networks (such as governments or multinationals) with a strength beyond their numerical capacity and initiate information campaigns or hacktivism to highlight their cause. In response, they argue that CMC facilitates those who organise non-hierarchically, and thus in order to be prepared for information warfare they urge governments to adapt to such style of organisation themselves.

To explore this further this chapter is broadly composed of three parts. It begins with an examination of the use on-line tactics for environmental activism and the reticence to such use. The second section considers the use of CMC as a substitution for a reliance upon mainstream media, and thus for the production of a digital alternative media. Concurrent to the use of any tactics, environmentalists usually consider the ways in which they will publicise their actions prior to and after the event. CMC has enabled new forms of media to be experimented. Furthermore, alternative media production is 'not just a precursor to activism, it is activism – writing is action' (Meikle, 2002, p.97), and thus needs to be examined when analysing tactics. Finally, the chapter concludes by exploring whether these changes in on-line tactics and alternative media production enable environmental activists to be more effective in achieving their aims and targeting their adversaries.

### **On-line tactics of protest**

CMC has been used to extend existing tactics into the realm of cyberspace, and as an opportunity to develop new forms of action. Forms of cyberactivism include individuals using CMC to trigger campaigns and co-ordinate action, distribute tactical information, email



petitions, and for direct lobbying (Myers, 1994; Schwartz, 1996, Walch, 1999; Harasim, 1993). In contrast with hacking, cyberactivism tends not to be illegal or particularly disruptive to other CMC users. The effectiveness of CMC to facilitate activists in achieving their goals in this way, however, remains debatable.

All the case studies, except CAT, used CMC as a component in their tools of environmental protest. CAT was not concerned with lobbying or protest, but concentrated upon practical environmental solutions (Jenkins, 1995). There were five key ways in which interviewees used CMC as a tactical tool: their on-line presence was a form of symbolic politics; lobbying using email or on-line fax facilities; broadcasting live video, photographs or text direct from off-line protests; creating unofficial websites; and using hacktivism and electronic civil disobedience. Critiques of each will be more fully explored in the next section.

#### *A symbolic on-line presence*

The use of CMC by environmentalists to display information which counters opponents opinions is in itself a tactical use of the technology. Thus those at Lyminge Forest aimed to update their website regularly, 'that way it looks active and more threatening to Rank [their opponents]' (Mike, Lyminge Forest). Thus the technology was used to signal the potentiality of environmentalists' mobilisation, as a symbol of resistance. Interviewees used their on-line presence as a form of threat to opponents as much as an actual illustration of what they were doing. For example SchNEWS felt 'we have a very live online presence' (Jo Makepeace, SchNEWS) which contributed to their image of being dynamic and empowered. The debate forums on sites such as McSpotlight and Urban75 also served as a warning to their targets that their adversaries had a voice.

This on-line presence was used to aggravate opponents and simultaneously attract participants. CMC was used to portray a symbol of strength, and as a source of inspiring symbols - a space where the theatrics of past actions could be displayed and replayed. Activists were able to create images of themselves in a form over which they had control. In this way the performance and fun elements of protest have also been extended to the use of CMC. Websites such as Urban75 incorporated direct action news with games, McSpotlight included videos and cartoons, and CAT had a virtual tour.

By using CMC to create a visible and vibrant image of environmental activism, some interviewees were also asserting that the technology should remain free from regulation and control: 'there was a freedom on the internet that had to be maintained and if we were gonna be in any way a small part in maintaining that and furthering the argument, then excellent' (Bob, McSpotlight). CMC was an additional space that environmentalists were attempting to subvert and impose their own cultural values upon. In this way some interviewees saw their use of CMC as part of setting the precedent of how CMC would be used in the future: 'if you're part of the process that sets the precedent about how the internet is used then that's how the internet gets used and if you're not in there at the beginning then ... you've got no complaints about how the internet develops' (Bob, McSpotlight). McSpotlight specifically sought to serve as an example to other activists of the value of using CMC. Environmental activists' innovative use of CMC has thus helped determine how its potential is viewed.

Furthermore, by squashing the stereotype of environmentalists as being anti-technology, activists hoped they would be taken more seriously: 'by showing the public that we can use technology and exploit it in an "intelligent" way we challenge the stereotyped image of protesters as disorganised drop outs' (Lyminge Forest questionnaire respondent, no. 26). By using CMC to illustrate how the activists at Lyminge lived, Matt (Lyminge Forest)

hoped inaccurate assumptions about the protesters might be dispelled: 'putting it on a website sees us in a more acceptable light. It's no longer underground subversive eco-warriors, it's like everyday environmentalists having tea with the local parish'.

Environmentalists' use of CMC is therefore symbolic. They have crushed the stereotype of being anti-technology, and they have used CMC in their own way, rejecting the commercialisation of the technology with their own forms of organisation and decision making structures. In this way the means merges with the message. Environmentalists have used CMC to symbolise their resistance, as a potent symbol of their vibrancy and allegiances, and have thus attempted to legitimise their activism.

### *Electronic lobbying*

Several groups utilised CMC as a medium through which they could lobby. Email tended to be used in the same way letters or faxes had previously been employed, either for personal requests or as part of mass petitions. FoE used CMC to aid its political lobbying both directly (using email to contact MPs) and indirectly (to co-ordinate and network with other organisations). Political lobbying by individuals was facilitated by draft letters which users could download from the website. Individuals were also encouraged to print off a copy of a postcard from the website called 'Climate Catastrophe' with a cartoon of Tony Blair on it, and manually post it to the House of Commons.

FoE encouraged individual members to use email to lobby their views. For example, web viewers of the Wild Woods campaign are urged email Finnish and Swedish ministers. This use of email to non-British ministers utilised an important attribute of email, in that to email internationally was no more expensive than emailing locally, facilitating international lobbying: 'I think if the government of Nigeria suddenly got 30,000 emails from all over the world it is clear to them that there is a degree of international concern about what they are doing' (Mike Birkin, South West RCC, FoE).

FoE also used their website to post information (and encourage lobbying) in attempts to trigger political responses. FoE launched the Chemical Release Inventory (CRI) and Factory Watch to help pressure for a Community Right to Know Act. Launched in 1995, the CRI enabled visitors to enter their postcode and produce a map of polluting factories for their area using government (Environment Agency (EA)) data (Schofield, 1995): 'Before we developed the CRI the data was like a telephone directory and totally incomprehensible' (Charles Linn, former web developer, FoE).

FoE's use of a mapping interface onto a complex data set over the internet was innovative and a landmark case in providing access to environmental information (Pipes, 1997). FoE was able to criticise the Environment Agency's argument that it was impractical to provide such data in a cheap and easily accessible manner by doing it themselves through the internet. This stimulated the EA to improve its web provisions of data (as is explored further in chapter six).

After the success of the CRI, Factory Watch was launched in 1999. This was essentially an improved and significantly updated version of the CRI with new data, and increased interactivity such as the ability to create ones' own Filthy Factory league tables and search the database by chemical, health hazard, industrial process, company and area. The 'Take Action' page once again encourages the reader to lobby local MPs to support a new Parliamentary Bill drafted by FoE. Here FoE is clearly attempting to utilise public support for their political lobbying. The launch of the Factory Watch campaign triggered an increase of

500 per cent in people accessing the website and stimulated a response from the EA, which a week later launched its list of top ten polluters (Nuthall, 1999).

On GSN, several electronic fax actions (where faxes are sent from websites) were encouraged. For example, a request was made to join the campaign to mass fax John Prescott (Labour minister for Environment and Transport) about the proposed second runway development at Manchester Airport, in 1997. Keith (GSN) admitted to using email to lobby, 'I email the occasional government' and Ciaran (GSN) believed that CMC was 'expanding lobbying power - in that you can get more people to act quickly by email rather than having to get in touch with them by other means'.

Similarly, McSpotlight invited visitors to pressure McDonalds, 'we found and published their email addresses which they did not make public. We also wrote a new version of their 'comment' form so that people could send their opinions to them' (McSpotlight volunteer). In all, several groups used CMC to lobby. Using email is perhaps easier (and cheaper) than writing and printing a formal letter and thus greater numbers of people may have been inclined to take part. However, the effects of (and participation in) on-line lobbying were difficult to discern and critics have suggested they are ineffectual.

#### *Live web broadcasts during off-line actions*

Several interviewees had advocated using CMC as a medium through which to provide a live feed of photographs or sound from off-line actions (using mobile phone links, portable computers and digital cameras). An example of the use of live broadcasts was during the occupation of Shell HQ in London on 4<sup>th</sup> January 1999. Using a digital camera, laptop and mobile phone environmentalists were able to publish live pictures and text over the internet directly to the public. Despite being barricaded inside the offices of Shell-Mex House without power or phone lines, the activists were able to broadcast their occupation and message to the world and its media.

This way the activists were able to generate their own media which attracted significant attention, 'the site received 10,230 hits on January 4<sup>th</sup> alone' (Anon, 1999g, p.127): 'the live internet link from the occupied Shell HQ was our way of getting our message across without the traditional media which always have their own agenda' (McSpotlight volunteer).

This was not only live, but by using photographs provided 'a certain amount of credibility to what you are saying ... by having photos people just are that much happier to believe what they read' (Chris, (S)hell). It was also hoped that by seeing the action live it would be more inspiring to other potential activists. This use of CMC further attracted mainstream media attention, though the coverage of the issues remained limited, 'the Guardian's piece on the action focused entirely on the website' (Anon, 1999g, p.127). On-line coverage also provided a form of protection:

when you are dealing with a big nasty company, security guards especially, rather than the police, the fact that you've got a camera isn't always good enough because they can confiscate the film, but the fact that it's already been broadcast means they have to behave and in a legal sense and in an activists' safety sense.  
(Chris, (S)hell)

Furthermore, the activists combined the occupation and live broadcast with a website similar to that of Shell, 'we went live on the internet with a site which closely resembled Shell's own. We were both using our own media and subverting theirs' (Anon, 1999g, p.127). Since then, live streaming has been employed during several actions. During J18 continuous video was streamed to the internet and this was repeated during the protests against the WTO

in Seattle (Chesters, 2000a; Wilkin, 2000). More recently, instead of live streaming, the trend has been to upload short video clips or MP3 audio files of actions. This has the added advantage over live streaming of being infinitely available on-line and easily downloadable for copy.

### *Unofficial websites and subvertising*

Another form of on-line tactic used by interviewees was to hijack, or produce their own versions of, official (company) websites. McSpotlight developed a guided tour of McDonalds website pointing out inaccuracies and untruths. They used frames to mix the two websites and 'to hijack the McDonalds website and deconstruct it' (Devin, McSpotlight). Similarly, Chris ((S)hell) registered domain names which were similar to some company names, and then posted up counter information on them. This attracted visitors trying to find the official sites and annoyed the respective companies or associations:

the British Field Sports Society (whose aim is to promote fox hunting) ... they got a website called BFS.org so we registered BFS.com ... the number of people that came there by mistake and were enraged, but you know that's great campaigning because you are getting an interested audience, targeting well.

(Chris, (S)hell)

Corporate Watch applied a similar tactic when they launched their website ([www.gm-info.org.uk](http://www.gm-info.org.uk)) which contained information about GMOs and tended to be negative about the biotechnology. The URL was similar to the government's website ([www.gm-info.gov.uk](http://www.gm-info.gov.uk)) which advertised the benefits of GMOs (Vidal, 2000b). This mocking of official versions of websites was also extended to the World Trade Organisation. The [www.wtoo.org](http://www.wtoo.org) site was a spoof of the official World Trade Organisation website. The site had been subtly adjusted using reamweaver software developed by RTMark. This software enabled the easy copying and altering of websites. The tactic of subvertising was also transferred on-line – moving the alteration of billboards from the street through CMC to hit brands on-line via their websites. Thus in addition to using the medium to distribute anti-corporation sentiment, CMC was used to proliferate agitpop, offering a different version of truth.

### *Hactivism and electronic civil disobedience*

Hactivism refers to the combination of activism with the hacking of computer systems. Hacking, once reserved for the apolitical computer enthusiast, is becoming politicised (Wray, 1998a; Taylor, 2001). Although the term hactivism is currently nebulous, examples of include virtual sit-ins and denial of service attacks, email bombing, website hacks, computer viruses, the disruption of databases and computer break-ins (Denning, 1999). It tends to refer to actions which are aimed at disrupting the normal operations of the target. Hactivism enables activists to develop new forms of protest against their corporate adversaries. It is necessary to move the protest from the streets inside, as 'nothing of value to the power elite can be found on the streets' (CAE, 1996, p.11). Thus, the historic tactic of civil disobedience becomes Electronic Civil Disobedience (ECD) taking traditional street action into cyberspace (CAE, 1996; Wray, 1998a and 1998b).

The Critical Arts Ensemble (CAE) (1996), who produced a seminal work proposing the use of ECD, suggest that there were two key prerequisites to the practise of ECD – skills and cellular organisation, both of which exist in the environmental movement. CAE (1996) had argued that there was an unbridgeable schism between a computer hacker and a political activist, and that hacking skills were essential to undertake ECD. Although many forms of on-line activism do require a certain amount of skill, the skills required to perform basic ECD are

gradually being disseminated and simplified<sup>63</sup>. There has been a process of mutual education and sharing of ideas between digital artists, hackers and political activists. CAE (1996) also argued that ECD will be operated most effectively through small anarchist cells, rather than large bureaucratic political organisations. This is because ECD requires secrecy, speed, and consensus which can be hindered in centralised political organisations. Such autonomous cells are much evident amongst direct action campaigners.

Despite both these criteria being met, there is only limited evidence of the use of hacktivist tactics by British environmentalists. The most popular ECD tactic advocated was the virtual sit-in FloodNet software programme designed by EDT. Designed by the USA based Electronic Disturbance Theater it enabled activists to flood a target website and prevent any genuine requests for information being answered, thus impairing the operations of the target company – a virtual sit-in at a website (Wray, 1998a). Several interviewees expressed interest in participating in such actions, 'I might be interested if somebody said we could cripple Microsofts' operations for a day by doing this, we can make a point because we will lose them some money' (Tristram, GSN). Members of GSN were also encouraged to take part in an EDT lead virtual sit-in of Mexican financial websites in 1998. This form of virtual sit-in was further used in J18 and N30 protests. In April 2000 the British electrohippies collective operated a client-side distributed denial of service attack on specific companies believed to be harming the environment (DJNZ, 2000). Importantly for those advocating participatory forms of action, client-side distributed denial of service (DDOS) attacks utilise the idea of FloodNet, but rather than mounting attacks from one computer, the action relies upon the participation of large numbers of people using different machines and was thus democratically based (DJNZ, 2000).

The effectiveness of such tactics, however, are doubtful: 'if you kept doing it forever then they'd just arrest you, because it becomes harassment, so it's great for an action but it's not a sustainable way of keeping stock markets shut' (Chris, (S)hell). Furthermore, few of the targeted sites were actually made inaccessible to other users. Rather, its power lay in its use as a form of spectacle and in the media attention it garnered (which often focused on the process rather than cause). CAE (2001) were disappointed with this emphasis upon creating a spectacle rather than an effective tactic. They reiterated their call for underground, less public, ECD to be practised.

Another example of ECD is email bombs. These bombard a victim with thousands of messages at once to jam recipient's email boxes is jammed, preventing legitimate email getting through. Examples occurred during the Kosovo conflict, the protests against the WTO in Seattle, and during J18 all the directors of Freshfields (an international law firm which services global construction companies) were subscribed to thousands of email lists, which consequently crashed their email system (Denning, 1999; Chesters, 2000a).

Hacktivism can also use computer viruses and worms to damage computer systems. A worm spreads on its own, while a virus attaches itself to files or code and is spread by the moving of these elements (Denning, 1999). No known examples of such tactics have, however, ever been ascribed to environmental action. Hackers have also often targeted the computer networks of organisations or governments by hacking webpages, 'breaking into' the computers or redirecting web browsers, and recently such attacks have appeared to be for more overt political reasons rather than the more technical aims of past hackers. For example, a British anti-nuclear hacker broke into and placed anti-nuclear messages over 300 websites in July 1998 and the Kaotik Team defaced forty five Indonesian websites in support of East Timor's fight for independence (Wray, 1998a; Paquin, 1998; Glave, 1998; Vranesevich, 1999).

Another form of hacktivism which has been encouraged is the physical tampering with computers. EF! Action Update (Anon, 1999n) contained details on how to crash computers during office occupations – such as reformatting, repartitioning and deleting files, and: ‘I’ve heard people talking about going to actions with a disk with a virus on, that’s the lowest level but that’s the same thing, it’s just more physical, less electronic, simply unplugging a computer is hacking physically’ (Chris, (S)hell).

Significantly, not all these on-line actions were operated by hackers but political activists who had enhanced their technical ability. Despite these examples, however, Chris ((S)hell) voiced a concern that hacking was hard to achieve and ‘it’s not as easy as they make out, there are not that many that are that good actually, and most big hacks that happen are more to do with having someone on the inside or luck’. Indeed, codemakers tend to have the edge over codebreakers. Hacking could also be quite destructive and this raised the dilemma as to: ‘whether or not that was non-violent, because bringing down a computer system could conceivably disable fire alarms, could conceivably stop people getting wage cheques and have their houses repossessed it could do a lot of damage ... being destructive like that isn’t necessarily very effective’ (Chris, (S)hell).

Furthermore, after claims that environmentalists had hacked City computers during the MayDay 2000 demonstrations in London, RTS retorted that hacking would not benefit their cause. Thus there was discord as to what were peaceful and productive on-line tactics, and what constituted more destructive forms of electronic hacking. Moreover, there were no validated examples of the more extreme aspects of hacktivism being practised by environmental activists, though due to their illegality it can be hard to contact those individuals involved. Although some interviewees advocated the use of ECD and some had experimented with it as a tactic, few case studies had adopted such strategies, ‘people suggested that kind of thing, but McSpotlight as a group didn’t encourage it’ (Devin, McSpotlight).

### **Reticence to employing on-line tactics**

The use of such tactics has raised debates amongst activists – as to what is non-violent and justifiable protest, and whether on-line tactics constitute direct action or ineffectual ‘desk top’ activism. Activists’ concerns include: on-line actions being ineffectual and causing unnecessary disruption; not knowing the technical possibilities or being limited by them; and having other priorities.

A key objection to the use of on-line tactics such as ECD was that they infringed upon (the often unspoken) netiquette of CMC use. Such actions were deemed to damage the functioning of the internet – such as clogging or diminishing bandwidth: ‘The internet is largely built on trust that people won’t deliberately cause problems, so we wouldn’t want to break that. I think the IT people are worried about that in reference to the electronic activism we are trying to encourage’ (Charles Linn, FoE).

This hesitation to breach netiquette also reflected the doubts of many interviewees that on-line tactics were effective, or that conversely they would be so effective that they would cause disruption for all CMC users. For example, the email to fax service which CMC enabled was encouraged by GSN participants to flood an adversary’s fax machine, but others on the list suggested that it would just crash the system. Thus some on-line actions were regarded as unnecessarily disruptive of the internet’s infrastructure and as ultimately tarnishing the activists message: ‘I think it was a bit of a policy ... to not do irritating things,

not try to bomb McDonalds server so that it closed down ... we wanted to be seen as a library, taking high moral ground' (Jessy, McSpotlight).

On-line attacks by environmentalists were seen by some as being tantamount to blackmail rather than encouraging positive change for the environment: 'it is important to keep channels of communication open and it is better to create an avenue for the organised expression of many views through a sustainable medium than to make the bridge collapse in the rush' (Richard, GSN).

Critiques of ECD often centred upon it being an undemocratic form of protest, whereby other people's free speech was limited by a few activists effectively closing down chosen websites. This was thus hypocritical of activists' calls for personal freedom, and many felt that the consequences of these actions needed to be more fully explored in terms of law suits or crackdowns on activists' internet usage. There were also some criticisms of the lack of communication to the public about why certain actions had been taken. These critiques are similar to arguments against the use of direct action, which can become violent and is about asserting the will of a few (though many claim they are acting on behalf of others) over others. The electrohippies collective tried to overcome this criticism by developing software which relied upon the involvement of a large number of individuals in order to be effective, thus making it democratically accountable (and illustrative of people power), but which did not cause undue damage to the internet infrastructure (DJNZ, 2000).

This accountability and openness of the actions, however, also seemed to curtail their effectiveness (CAE, 2001). As illustrated with ECD, public on-line actions often remained spectacles because they were relatively easy to counter (Meikle, 2002). In all, it was rarely possible to judge whether on-line actions were effective. Examples of hacking were seldom publicised, 'Banks, corporations and other institutions often quietly cover-up breaches of their security so as to not create panic in their customers or provoke a wave of copycat offences' (Anon, 1999). Although some interviewees took part in lobbying via email they questioned whether they were even being read: 'I don't think they are very effective, I have emailed Bill Clinton a few times, but ... its very easy to just run through and delete the things and ... to filter out' (Tristram, GSN). Few had received responses from electronic lobbying, 'I don't think they treat it as important' (Mary, Peace Action). However, FoE's use of CMC to provide interactive access to data did stimulate the Environment Agency to update their use of CMC and also to launch their list of top ten polluters, and the GMO campaign was so effective it led FoE to be accused of giving direct protestors too much information and was reported in the national press.

Additionally, some interviewees suggested that use of on-line tactics was limited by activists' ignorance of what was technically possible. Tony Canning (IT technical and support manager, FoE) thought the responsibility lay with the IT department to encourage on-line tactics: 'we would like to take the use of the net further on the campaigns side as there is more you can do with it. But really it is up to us to say what is possible and then push for it. The campaigns people don't necessarily know what is possible with the technology'. Conversely, rather than lack of knowledge, Devin (McSpotlight) implied that innovative use of CMC was limited by a plateau in the development of internet technology: 'I think the internet will develop new technologies when the bandwidth becomes available and new innovations will happen, but I think where we are at the moment there is nothing particularly new or sexy there to be exploited'. In this sense the potential of the technology was still largely under debate.

A key factor in the use of on-line tactics, however, was campaign priorities. The priority of each campaign or group was to achieve their goals in the most effective manner.

Use of CMC at Lyminge Forest was confined to being an additional communication tool rather than for the employment of on-line tactics. This was not due to a lack of ideas, but because the activists had other priorities. They only had limited time and resources, and their preference was to build physical defences to prevent their eviction and the development of the forest. That those in control of the website were living on-site full time probably contributed to this emphasis upon physical participation, rather than the encouragement of on-line actions. The most important aspects of the campaign were: 'people here in the woods, building defences and getting media attention - to be quite honest the website isn't that important to the campaign.... It is useful but it is not that fundamental. I think it is more important that people are here and building defences' (Merlin, Lyminge Forest). In a different context, however, hacktivism could be the more effective tactic:

Debates about hacktivism tend to focus upon whether direct political action is a non sequitor if it takes place in virtual environments. In contrast, I would argue that it is hacktivists' imaginative re-engineering of the technological code contained within the Internet, that actually enables them to engage more successfully with the more abstract capitalists code that paradoxically has most effect upon the so-called 'real world'.

(Taylor, 2001)

### **In the street and on-line: combining electronic tactics with physical protest**

Interviewees have not wholeheartedly embraced the use of on-line tactics and part of the reason is a desire to root all protest in off-line experience: 'Where cyberspace meets other flows of reality is where its potential lies ... Left by itself, cyberspace connects people in only a limited way and provides only an illusion of participation' (Froehling, 1997, p.304-305). Environmentalists are campaigning to protect the earth and its inhabitants and thus despite activists' ingenious and extensive use of CMC, the importance of physical protest and existing techniques has been maintained.

Rather than shifting activism into the realm of virtual space, and bypassing the importance of location, environmentalists assert the value of their particular locality to be protected. Local struggles are linked with other local struggles so that although one is able to 'take global action locally' (Campbell-Jones, 1998, p.9) in this era of globalisation, the importance of the local and the non-virtual is reasserted.

Furthermore, interviewees gave no sign of abandoning the use of their existing techniques of protest. In most cases CMC was used as an additional tool of protest, or during the mobilisation and co-ordination of events which then took place off-line. Interviewees wanted to ensure that there were links from their use of CMC to old ways of protest. Thus for McSpotlight: 'The grounding of the site's content in actual struggle is emphasised by the foregrounding of campaign information and leaflets and the assumed requirement for these to be available in print for distribution at protest sites, on demonstrations, in high streets' (Atton, 2000, p.2).

Interviewees felt it crucial to combine on-line tactics with those off-line in order to be effective. It is this merger of on-line tactics with existing methods which holds most potential for increasing the impact of environmentalists' actions. Focusing solely upon the technological facets of action would result in losing a great deal of the symbolic, media 'friendly' and empowering aspects of protest, and on-line activism holds few of the personal



benefits gained from off-line activism such as solidarity ties and friendship. Furthermore, the apparent invisibility of on-line actions poses problems for activists who have traditionally relied upon media representation to fuel their publicity. Consequently, environmental activists have incorporated CMC into their repertoire of action, but have maintained the importance of physical protest, be it in the street or on adversaries' premises.

Walch (1999) identifies a growing gap between 'e-activists' and those involved in the traditional forms of protest – a division between those with the technology and those without. In the environmental movement there are signs of this segregation but the technology has also been taken to the sites of protest – with laptops at Lyminge Forest, and live internet feed from global actions. This attempt at balance illustrates an ability to overcome the schism, be neither just a 'hacker' nor an 'activist', and use diversity productively to create new identities.

Moreover, this ability to combine CMC actions with other forms of protest has facilitated the tactic of 'swarming'<sup>64</sup> an opponent. Swarming techniques are simultaneous utilisation of a variety of tactics to hit a target from a multitude of directions (Chesters, 2000a). Activists have used their technical computer skills in combination with traditional forms of protest to produce a wide array of techniques that can be utilised simultaneously against an adversary. This use of CMC has facilitated the trend towards 'organised spontaneity' (Scott and Street, 2001, p.41) in protests – whereby affinity groups decide their own course of action but join with others in concentrating upon a particular target. Affinity groups can communicate prior to an action and then each undertake different tactics – such as an office occupation, a banner drop, and leafleting occurring at the same time as another group is bombarding a company with emails or operating a virtual sit-in at their website.

Despite this potential, however, and evidence of the swarming of opponents combining street level actions with on-line tactics during J18, the organisation of large scale attacks, co-ordinating a variety of groups to take alternative actions can be problematic. Using CMC to facilitate the co-ordination of several groups for one action can result in the integration of several different tactics and increasing numbers of participants. The roles of CMC in the coordination could be vital, enabling disparate groups to communicate across distance and ideology with a mutual aim of disturbance to a target. However, without the discipline and hierarchical chain of command of military units the coordination of several groups can be problematic. It can be difficult to achieve consensus of heterogeneous groups as individuals choose to disagree with other groups choice of tactics, causing dismay for some activists and ultimately dissipating the potential of the action. For example, while some protesters may approve of an office occupation, they may not agree with the use of on-line tactics.

Furthermore, while environmentalists do have varying degrees of access to CMC, they are unlikely to be able to afford attain the extensive communication equipment advocated by Castells for military level swarming. Castells (2001) argues that this form of warfare 'is entirely dependent on robust, secure communications able to maintain constant connection between the nodes of an all-channel network. A combination of satellite transmission and mobile computer networking' (p.161-2). Rather, activists can utilise a more basic form of swarming to take targets by surprise and as Meikle (2002) suggests exploit 'the small cracks that appear in the mediascape through the rapid evolution of technology and catch-up process of regulatory policy' (p.120). Thus the challenge for activists is not to match a military inspired notion of networked warfare, but to benefit from the networking and coordination opportunities of CMC and integrate novel on-line tactics with the familiar (and thus more identifiable and solidarity building) tactics practiced on the street level. Furthermore, it is to use the sometimes apparent chaos and spontaneity of actions to their advantage.

Overall, the use of on-line tactics by interviewees suggest that environmentalists' use of CMC as a tactic constitutes an additional appendage to, rather than a fundamental shift in, their repertoire of action. Interviewees have appropriated CMC how they wish to, rather than using it the way others have done before. This in itself is innovative and contrasts with corporate use of CMC, but in general interviewees have simply transferred their existing methods onto CMC and not challenged their approaches to protest.

### **Digital alternative media**

Environmentalists have traditionally produced a variety of media. Their media was termed 'alternative' for it was concerned with considering concepts and policies which differed from mainstream thought and was often used to publicise actions which attempted to change aspects of society (Atton, 1999). Alternative media includes the publication of magazines, booklets, flyers, leaflets, videos, and radio broadcasts, often by co-operatively organised volunteer groups (Holloway, 1998). In contrast the mainstream media is typified by the 'corporate ownership of newspapers, television and other media outlets' (Warf and Grimes, 1997, p.260) and in reflecting the dominant views of society: 'It is believed that mainstream media exclude in principle radical and oppositional ideas, that when such perspectives appear they are negatively framed, or limited in scope, and that oppositional groups must therefore create their own media and forms of communication' (Kellner, 1999, p.103).

This section explores how the development of a digital alternative media might alter the relationship between activists and the mainstream media – traditionally an important conduit for post-action publicity. Environmentalists use of CMC as a medium for the construction and publication of a digital alternative media has facilitated interviewees' ability to distribute material direct to the public (maintaining editorial control) without the need for diffusion through the mainstream media – using CMC as a form of media substitution (Walch, 1999; Lovink, 2000; Atton, 2000). This modifies activists' relationship to (and need for) the mainstream media. Some environmental actions have had to rely upon representation in mainstream media in order to publicise their cause. This reliance had in turn influenced the tactics they chose, in that stunts had to be designed and timed to attract media attention. The use of CMC could radically alter this search for media representation, by enabling self-representation to a wide audience (Myers, 1994; Doherty, 1999b; Lovink, 1998). Furthermore, CMC use could lower the costs of production, speed up distribution and reach an international audience, transforming the modes of (digital) alternative media. Thus the processes of the construction, format and distribution of the alternative media are altered. These altered processes will now be examined in more detail in order to explore the changing representations on-line, reduction in production procedure, new forms of production and the continued relationship with mainstream media.

#### *Direct and detailed representation*

CMC decreases environmentalists' reliance upon mainstream media representations and enables 'direct' self-representation to the wider public. This enables them to distribute detailed information about their cause and to do so quickly. Although environmentalists have always produced their own (alternative) media, this has often had a small circulation and only reached specific cohorts of the population (Atton, 2000). In order to distribute their message to a wider public, environmentalists have traditionally had to utilise the mainstream media, but have subsequently not been in control of what was reported.

By using CMC many interviewees argued that they were now able to directly control the content, image and message they wished to portray: it, 'allows us to get exactly what we want to say to the public. We write what we want and it isn't edited or changed by anyone' (Mike, Lyminge Forest). Interviewees were able to bypass traditional power structures to publish often unorthodox material: CMC 'allows us to be published without having to go through organised interest groups and power structures who may not like what we want to say or what we do' (John, Lyminge Forest). In addition to being able to publish their basic message, interviewees used CMC as a forum to provide content rich detailed information (which was not being supplied through the mainstream media): 'absolute mountains of information were being dug up about McDonalds ... and this was just sitting in box files and not being accessible by anyone ... the internet seemed the perfect medium to do that' (Devin, McSpotlight).

Thus digital alternative media became 'all about content' (Bob, McSpotlight), about providing the public with all the information about the issues so that they could judge for themselves (George, 1999). Despite the Lyminge Forest website being limited in the content it contained ('it's very visual but it needs a bit of substance' (Mike, Lyminge Forest)), it was still hoped that it would be used by the public to inform themselves<sup>65</sup>. The website enabled the Lyminge activists to distribute their version of what they were doing (including photographic evidence of the situation) rather than relying upon a distorted (and often uninformed) version via the mainstream media.

This use of websites to host activists' viewpoints about campaigns also serves as spaces through which the groups become represented. Thus, the RTS website has come to represent the 'nearest there is to an official line' (Laptop Mike, RTS) from the loosely organised group. However, the mainstream media has used activists websites as a source for groups' opinions or reactions to events.

Previously, alternative media was confined to a specific audience, but on-line it is available to all (with CMC access), which is 'making it more accessible to different people' (Sarah, MO). This access would, it was hoped, stimulate an understanding of what the activists were trying to do: 'everyone can find out about the environmental movement ... before the internet and websites a lot of people were a lot more ignorant than they are now' (Matt, Lyminge Forest). Not all interviewees were quite as optimistic that a broader audience was being reached by using CMC. James (EF!) was unsure that creating webpages was worth 'putting effort into them, as they may only be accessed by a small number of people'.

In addition to being able to represent their own ideas and situation, interviewees were able to do so quickly, often faster than had been possible by printing magazines or newsletters. CMC was quicker than receiving the hardcopy: 'we get a hell of a lot of info. in on email and we get it quicker than receiving *SchNEWS* or *EF! Action Update*, so we just read it off the computer' (James, EF!). On J18 activists were able to post up news almost immediately. Video footage from the scene was on-line within twenty minutes of being filmed and text updates were added from participants, contributed by mobile phone from the scene. During the May Day 2000 demonstrations at Parliament Square in London, computer terminals were set up in the street, so that participants could give accounts of the events direct from the scene. Furthermore, it could be used as a medium to promote more actions. In the past magazines were limited to promoting action which were planned a long time in advance because of the time it took to print and distribute the copies. CMC is able to inform an audience at short notice of impending protests.

### *Reducing the onus of production*

Producing alternative media can be a time-consuming and costly task. CMC was used to reduce some of these pressures. Traditionally, there were several roles (and stages) involved in the production of such media – such as journalist, editor, printer, and distributor. With the advent of CMC, these roles can be merged. Although the material still needs to be written, edited and posted on-line, the task of printing is removed and distribution reduced. Thus a single individual can take on all tasks more easily. The result is the proliferation of more media outlets, or the ability of an individual to dominate a publication. An example of this is Urban75, which is essentially run by Mike Slocombe, where CMC ‘means that one person like me can maintain a huge site’. It also enables international co-operation on the production of a newsletter. For EF! Action Update ‘all the archives were done in Holland, that distance just isn’t a problem anymore, you simply email the stuff’ (James, EF!).

Furthermore, in dealing with traditional media the most confident of the activist group often becomes the spokesperson because they were willing to talk to the media. Using CMC, however, quieter individuals can interact with the media (formulating press statements or giving email interviews), or produce alternative media. Thus the role of media spokesperson can be taken on by a variety of individuals.

Using CMC also reduced some of the costs of production of alternative media – the finance, skills and time required. Some interviewees found financial costs to be less than producing hardcopies: ‘it seems like all the other media are really expensive to produce and get into and this wasn’t, it just costs the price of a local short phone call to put pages up’ (Andy, GSN). This has particularly benefited smaller groups who suffered from a lack of resources. It has additionally meant that activists were not restricted to producing just one newsletter, but could produce multiple sites ‘because it’s not like you are wasting paper by printing a separate newsletter’ (Chris, (S)hell).

In terms of skills, Hamilton (2000) asserts that ‘internet-driven alternative media still require professionalised skills of composition, coding, and software operation’ (p.3). However, some interviewees deemed the skills necessary to use CMC less problematic than learning how to use other media: ‘to make a good video is quite a skilled thing, but to build a simple website is not a skilled thing, if you can write text, you can publish it, and that’s it’ (Steve Jones, former ATA coordinator, CAT).

Finally, *Squall* switched from being a paper based publication to a predominantly on-line magazine to reduce costs and labour intensity. This was crucial when the labour were all unpaid volunteers: ‘there’s only four or five people doing it ... putting out stuff on a website is less labour intensive ... if you’ve got the text you can just chop it in and away you go ... it’s less tricky and fiddly than producing a fifty odd page magazine’ (Ben, Squall). Such on-line magazines were also easier to update as new editions were not required: ‘with a magazine you have to bring a new issue out every month ... with a website you just augment what’s already there so it just grows and grows and grows ... you can update it by the minute’ (Mike Slocombe, coordinator, Urban75).

A crucial aspect of alternative media production is the collection of content and CMC was used by interviewees to facilitate this research of material – from fellow activists, experts and opponents. In the construction of the *EF! Action Update* the (Newcastle 2000) editorial collective received most of their stories through CMC<sup>66</sup>, although some hardcopy letters were still sent to them. Email was also used to source articles for the EF! journal, *Do or Die*, ‘most of the articles are from people who we have contacted through email’ (Michael, EF!).

Email was also used as a way to communicate directly with experts, 'you can ask people for their advice and opinions and examples of best practice from all round the country' (Dave, GSN). FoE were able to keep abreast of developments in government: 'We follow what's happening in Parliament very closely ... Hansard on the internet' (Adrian Bebb, Real Food campaigner, FoE). Finally, CMC was used as a source of information about opponents, 'to find out information about bad companies as this information is harder to get hold of by any other means' (Mary, Peace Action).

### *Diversifying the formats of publication*

CMC offers new possibilities for representing information and reaching an audience, but it can also trigger information overload, and allow readers to become lost amongst the quantity of material. CMC is a multimedia environment that enables a variety of formats of publication. McSpotlight included video clips and an audio guided tour of their website. Using these different (and innovative) formats, interviewees hoped new audiences would be reached:

if you present an argument using a different format in a way that isn't just ranting and shouting ... people actually read ... they'll sit because it was so unusual ... a lot are just playing games ... but a lot of people drift through the other sections and hopefully learn something on the way ... the web's an interesting medium, it's informal by it's nature, so I think for that reason people are a bit more relaxed when they read it and people are more likely to read stuff than perhaps if it was handed to them on a leaflet.

(Mike Slocombe, Urban75)

This informality of being on-line has meant that the boundary between a publication and communication has been transgressed. While specific digital alternative media magazines exist, such as *Urban75* and *Squall*, email lists (such as GSN) also act as a source of alternative media, at the same time as providing a space where one can interact with like-minded individuals and share information.

Likewise, some websites have become on-line campaign resource nodes, which provide space for groups to present themselves and their material. These retain a similar role to paper based newsletters, however they are able to contain more information and be updated more frequently<sup>67</sup>. These on-line campaign resource nodes have several features which distinguish them from similar hardcopy formats. Sites such as McSpotlight and Urban75 are not produced as editions, but are constantly updated. They are never complete entities, but continuously evolving. Thus the point of publication has become a continuous moment of flux: 'that kind of archive is really important, a kind of living history' (Jo Makepeace, SchNEWS).

This continued building of a website enables a more permanent access to past editions, and thus a more permanent access point to alternative media. Such electronic storage of information is also searchable and this amassing of publications contributes to activists sense of a successful past, learning from failures, and gaining a sense of solidarity from others' actions which might stimulate future activism. For example, McSpotlight remained on-line after the McLibel trial and after many of the associated actions had happened. Many of its original authors have dispersed and yet it continues to be an on-line campaign node, 'a focus for a protest without a geographical or temporal centre' (Atton, 2000, p.2).

This plethora of on-line sources and formats has caused some interviewees to feel overloaded by information, 'there's so much out there but it's very time consuming looking for it' (Worzel, Lyminge Forest). Although lists such as GSN act as sources of alternative

media, they can also become clogged by too much information, 'people have unsubscribed from the email list because the volume has been too high, and attempts to set up a low-volume announcement list have not been successful' (Jon Ivar, GSN).

Thus while there has been a diversification of formats and variety of sources of digital alternative media, which has potentially made it more accessible to a wider audience, the clarity of the material can sometimes be lost amongst the wealth of information. Some alternative media have realised this, and SchNEWS continues to act as an information filter, preventing readers from information overload: 'it's the same size every week, it's once a week and I'm aware of the responsibility ... for not overdoing it on our [email] list' (Toby, SchNEWS).

### *Maintaining the importance of the mainstream media*

Despite the uses of CMC as a forum for alternative media, most cases still used mainstream media, and actually sought to attract its attention through the use of CMC. Although activists could control the distribution of their own version of events through CMC, interviewees were aware that the public would still employ the mainstream media to inform their opinion: 'it is a physical war and it is also a media war. A lot of it is based on public perception ... we have to fight the media war especially' (Mike, Lyminge Forest).

Furthermore, use of the mainstream media was never purely to distribute information, but also to marshal support for environmentalists' demands and generate pressure upon politicians. CMC is unlikely to have the same effect as a damning headline in a national paper in forcing the government to react. FoE retained its aim of attracting media attention through traditional stunts, but also used its innovative use of CMC (such as the CRI) to capture the attention of the media:

It's a bit of a game, you've got to come up with some sort of stunt ... its almost the equivalent on the internet. But the media won't come unless they can get good photographs, a good photograph could be graphics from the website, but you've got to provide something for them to call it a big story to get the message out.

(Tony Canning, FoE)

Additionally, all press releases were automatically posted on-line and this was the most heavily accessed area on the website. Similarly, at Lyminge Forest, 'media attention has been something that the internet has attracted because all the media like to do stories of people using high-technology in the woods' (Merlin, Lyminge Forest). McSpotlight provided an angle by which the mainstream media could comment about the McLibel trial. Furthermore, despite criticising the media McSpotlight rejoiced in their coverage, it:

delights in citing those media in its own publicity. This ambivalence, coupled with the mass media's own fascination with the form and use of the site (over and above its content) complexify the site's characterisation of 'alternative media', particularly in terms of its processes and its relation to the mass media.

(Atton, 2000, p.2)

Similarly, CMC was used to bypass the necessity to attract mainstream media attention during the occupation of Shell HQ by posting information direct to a website. However, this innovative use of technology actually attracted mainstream media coverage and was welcomed by some of the activists (who were criticised by others for valuing this mainstream coverage) (Anon, 1999g). With time, however, the mere fact that environmentalists are using CMC is no longer news.

Rather than just use their employment of CMC as a news story, interviewees sought to interact with the mainstream media through CMC. This enabled them to provide information they thought relevant - content, not just a photo opportunity – direct to journalists. Journalists were directed towards information on websites to provide them with all the details, ‘when the press ring up instead of giving them the whole story and spending hours on end speaking to the press we can just direct them easily to the internet’ (Tim, HSA<sup>68</sup>). It was thus hoped that journalists would be more informed and write sympathetic copy. During J18, the anonymity gained by activists through email facilitated their ability to communicate their message directly to the mainstream press. They were able to use temporary email addresses and give media interviews from geographically distant locations without risk of discovery.

CMC was also used to speed up interaction between activists and the media: ‘without the internet we wouldn’t be able to manipulate the press as much as we do, because you need to have quick communications with them. We were always trying to do that before, it was just we didn’t have the resources or the money’ (Albert, MO). Despite this, faxing was still deemed the most efficient way of distributing press releases and attracting journalists attention as ‘most news organisations still give priority to hard copies ... basically they need it in front of them on a piece of paper and they’re actually quite slow to use the internet’ (Ian Willmore, Media Unit, FoE). However, CMC was still ‘useful for keeping in touch with people we already know, particularly in print, who would look at their email and read something for us in the normal course’ (Ian Willmore, FoE).

### *Changing forms of alternative media*

The development of a digital alternative media using CMC has enabled environmentalists to have directorship over the representation of their cause and actions and reduce the onus of production. The use of CMC has enabled new formats of publication to be experimented with and for a multitude to be presented from one place (such as video, games, text and images all on one website).

These changes, however, have contributed towards a plethora of on-line publications, and for some interviewees a ‘data smog’ (Shenk, 1997). Alternative media is no longer alternative in the form it once was. Its form of production is normalised compared to other uses of CMC, there are no confines as to what constitutes a publication, and there are no longer boundaries to its readership. The once distinctive processes of alternative media production – non-hierarchical and participatory forms of organisation – are ‘now normalised in internet practice’ (Atton, 2000, p.3). This has implications for its ability to motivate a specific readership into action. The only constant between print and CMC versions of alternative media is content which comes from off-line experience. Similar to many interviewees’ objections to using on-line tactics, their production of digital alternative media has remained grounded upon off-line protest events.

Moreover, despite these advances in alternative media, the importance of the mainstream media was maintained. It has not been solely used as a form of media substitution. This reflects a realisation that the mainstream media yield power in society, and this combination of approaches is exactly what Kellner (1999) advocates as part of the development of a radical democratic technopolitics.

### **Direct targeting**

Environmentalists have used CMC to facilitate their mobilisation and co-ordination, tactics and production of alternative media. This use of CMC enables environmentalists to

reach their target more accurately – both in terms of hurting their opponents and exposing their views to an audience. On-line tactics enable environmentalists to use a wider variety of methods to swarm an adversary, or to compromise a company's computer system, increasing their chances of making an impact. The use of CMC for the production and dissemination of alternative media also enables environmentalists to target their audience more accurately, reducing the need to rely upon mediation by the mainstream media, and speeding up the process of distribution to an international audience.

Although the need for wooing the mainstream media was maintained for environmentalists, its importance was reduced, which in turn affected the type of tactic they chose to employ. Environmentalists who had previously used tactics designed to attract mainstream media attention are now freer to choose tactics which might damage their opponents in more direct ways, which would not attract attention and could then be published via CMC to fellow activists to inspire copy-cat actions.

A key problematic for the use of any tactics is in measuring their effectiveness. Effectiveness can be determined by the response of the target, via the extent of mainstream coverage or by the empowerment experienced by those taking part. Using CMC has thus facilitated activists' ability to react against their opponents (using on-line tactics) and simultaneously bypass them by creating their own space of resistance and forms of communication through CMC. However, the use of tactics and role of alternative media is not always to target an opponent, but rather to stimulate the population into critiquing society. Effectiveness can thus be measured by whether 'the practice of critique *itself* becomes widespread and accepted, signalling critique as a major social activity' (Hamilton, 2000, p.3). Thus although the use of CMC could dramatically alter the ways in which environmentalists operate, activists who may remain small in number might be more effective in reaching their goals by continuing to encourage critique and for the population to empower themselves, rather than concentrating upon targeting specific opponents.

Such use of CMC has contributed to a shifting of power between groups within the British environmental movement. CMC reduces the necessity to have large resources at one's disposal in order to organise large actions or undertake damaging on-line tactics. Thus CMC is facilitating the rise of smaller grassroots groups (as opposed to the traditionally dominant large NGOs) who are able to use CMC to be effective in their tactics and media.

Despite this potential, however, much of it remains just that – potential. There was a general reticence amongst environmentalists to adopt on-line tactics and a desire to root tactics and alternative media into off-line experience. This urge to combine CMC into existing practices, and only limited examples of new practices being developed prevents such CMC use being categorised as triggering a fundamental shift in environmentalists' repertoire of action. The importance of traditional techniques was maintained.

Activists' reluctance to make full use of on-line activities has restricted their ability to benefit from some opportunities offered by the technology. However, their attitude also serves to reinforce underlying assumptions within the environmental movement that off-line activities are their primary focus. Thus, rather than immersing themselves in a virtual world, and becoming dislocated from local affairs, environmentalists have retained a commitment to off-line politics – thus signalling to society the primary importance of the protection of the environment on earth, above and beyond all other actions and affairs.

We can now turn to chapter 6 to explore a final component of environmentalists use of CMC remains to be examined, that of the impact of surveillance.



## 6: On-line surveillance and counterstrategies

Computerised electronic surveillance has ushered in a whole new phase of domination.

(Kovel, 1983, p.77)

The threat of surveillance has led many environmentalists to fear CMC is another temporary, rather than long-standing, space for resistance. A fear of a totalitarian or corporate state, a dictatorial presence which limits any space within which resistance can develop, has led to activists zealously guarding what liberties they have and constantly searching for new tools with which to widen them.

Environmentalists' activities have been monitored and recorded for years by law enforcement agencies and, in some cases, public relations firms and corporations. Strategies have also been employed to counter environmentalists' efforts or success, hence the term 'counterstrategy'. These include widening state legislation to ban their activities or companies seeking to disperse criticism by distributing 'greenwash' (Rowell, 1996 and 1999; Beder, 1997). Environmentalists may fear that CMC could amplify the power of the state and corporate forces to use such tactics, but also seek to use CMC as a route to avoid some of these threats (Castells, 1997b). CMC is a medium through which environmentalists could assert their politics, but it is also a contested terrain (Breslow, 1997). As companies stake their claim to cyberspace, they are able to assert influence over its regulation and the practice of ISPs and use CMC as a tool through which to disseminate their corporate message.

The use of surveillance and repression affects the tactics used by environmentalists and the forms of, and activists' reaction to, surveillance and counterstrategy help shape the way environmental groups operate. The purpose of this chapter is to examine environmental activists' perceptions of, and reactions to, on-line surveillance and counterstrategy and the implications these threats have for CMC as a space for activism. At present the relative lack of CMC legislation has created an avenue through which environmentalists can maintain some secrecy. However, most interviewees viewed CMC as being essentially a public domain which was not secure. Consequently, many made attempts to take care in what they posted or to encrypt their email communication. Such actions restrict the usefulness of CMC for communication and preserve face to face (or at least word of mouth) dialogue as the safest form of transmission.

Thus this chapter begins with an examination of environmental activists' perceptions of surveillance and counterstrategy of their activities (and where they perceive the source of this threat to be). Second, the way in which these perceptions inform and affect their use of CMC is considered, detailing the tactics interviewees have employed to negotiate surveillance. Third, the response of the state and corporate bodies to environmentalists' CMC use is outlined. Finally, the on-line surveillance and counterstrategies of environmentalists are an additional dynamic to the tensions between the threats and opportunities of CMC use for environmentalists. Consequently, in the final section the implications of these tensions upon the perception of CMC as a new space for activism is considered.

## Perceiving a threat?

The activities of many of the participants of the British environmental movement have drawn the attention of the British Police force, the intelligence agencies (such as MI5 and Special Branch), and public relations firms for a number of years<sup>69</sup> (O'Hara, 1994; Wall, 1999a; Bennetto, 1998). This has taken the form of phone tapping, infiltration, photographing actions and building up a database of prime suspects<sup>70</sup> (O'Hara, 1994; Lodge, 1999; Campbell, 1981).

Protests events are often monitored using video cameras which can be used to digitally map the faces and identify activists (Ball, 1997; Anon, 1997i; Lodge, 1999). Members of SchNEWS had been monitored and 'Sussex Police once tried to ban our meetings by leaning on the landlord in a local pub ... several people have been approached to provide information for cash ... we are followed around and photographed and filmed and filed just about every week' (Justice?, 1998).

In addition, many British environmental groups have been infiltrated, such as Greenpeace and FoE (Murray, 1993). The British intelligence agencies have the power to tap telephone conversations of suspects and mobile phones enable police to determine the physical location of the phone user (Campbell, 1981; Barnett, 2000). Attempts have also been made to create a national database of personal details of activists, compile profiles and share such data on the Europe wide computerised database the Schengen Information System (Lodge, 1999; Elliott and Campbell, 1996).

The surveillance of environmentalists has extended to their use of CMC. There is only sketchy research available that considers the ways in which CMC is monitored. This surveillance could take many forms; the monitoring of content of emails and websites, observing who talks to whom, the seizing of computers and hard drives, and the interlinking of databases nationally or internationally to provide personal profiles of 'key' activists.

Interviewees perceived the threats (and sources) of surveillance and counterstrategy through CMC in a variety of ways. Although these perceptions were heavily influenced by the attitude of their affiliated group and the illegality of their actions, they were also often very personal and represented their individual fears or paranoia. There are several divergent understandings of the threat of surveillance. The most widely held belief amongst interviewees was that CMC constitutes communicating through a public domain and only a handful viewed CMC as a medium where they could be anonymous, remain inconspicuous or be beyond censorship. The range of these beliefs is outlined below – from viewing CMC as a secure space to believing all communication is monitored.

### *Insignificant, anonymous and beyond censorship*

In comparison to threats interviewees recognised off-line, a handful felt CMC offered a 'safe haven'. Some interviewees also felt that they were too insignificant for police authority attention: 'I don't believe I'm sufficiently important for the police to be interested in listening in to my conversations ... activists aren't very powerful and aren't very important at the moment' (Tristram, GSN). Thus it was deemed that police may pay little attention to information on CMC, 'they are not going to get a massive police presence out just because we put a message out saying we are going to march through Brighton town centre tomorrow campaigning' (Keith, GSN).

Few interviewees proposed that CMC enabled them to remain entirely anonymous, though some suggested that the technology made it *easier* to retain anonymity compared with

other methods of organisation: it 'relieves my paranoia about having snail mail monitored by the police' (GSN questionnaire respondent, no.10). Furthermore, some interviewees touted the idea that CMC censorship was impossible. Thus activists were able to distribute information without interference, 'you can get stuff out there without it being tampered with' (Pete, founder and coordinator, MO) and receive 'personal accounts completely unedited/censored from the frontline (e.g. Ogoniland, or Chiapas)' (GSN questionnaire respondent, no.12).

### *Communicating through a public domain*

Despite this optimism the majority were more cautious and considered CMC a public domain rather than a space for secure interaction. Thus interaction via CMC was deemed as public as a postcard and activists were urged 'not to write anything down that you wouldn't post to your local nick' (Dave, Cornerstone Resource Centre<sup>71</sup>). Furthermore, GSN 'works on the basis that people do realise that by sending stuff to the list it is going into the public domain' (Ciaran, former list coordinator, GSN).

Due to CMCs public nature, many interviewees expected leakage from information distributed via the medium. However, they counselled that the benefits of the publicity offered by CMC outweighed the inevitable loss of secrecy: 'you are going to have to lose a degree of privacy if you want to get information out to enough people' (Keith, GSN).

Some groups, however, have sought to benefit explicitly from the public nature of CMC, by using it as a medium through which to bypass obstructers who have invoked legal restrictions on what can be published. FoE placed its banned mahogany advert on its web page. It was able to do this because 'the law is a little cloudy over the issue of whether you can put banned advertisements on the internet' (Charles Linn, former web developer, FoE). The use of CMC by McSpotlight was also a direct result of McDonalds attempts to censor the distribution of the McLibel leaflets:

because McDonalds is such a litigious company, no radio show, no TV programme, or paper is ever going to print anything about them in this country ... it seemed like the logical thing to do to put it on a medium where it couldn't be censored and where it could be accessed world wide.

(Devin, McSpotlight)

McSpotlight played on the inability of companies to censor CMC, and deliberately circumvented McDonalds' legal action against London Greenpeace. In this way McSpotlight were able to use CMC to publish: 'millions upon millions of critical words, clips of the films that McDonald's thought it had suppressed, extracts of the banned play, every malicious cartoon and article that had ever appeared, all the information supposedly taken out of circulation by previous trials' (Vidal, 1996, p.12.).

### *All communication channels are monitored except word of mouth*

If CMC is essentially a public domain and on-line activities are monitored, many interviewees treated CMC with the same caution as other communication channels (such as the telephone, citizen-band radios, letters, and faxes), and valued word of mouth as the safest form of communication.

Although dates and meeting points of actions were posted via CMC, the finer details were only distributed through word of mouth: 'It's got the potential to be intercepted in the same way as anything - the phone or mail. The most secure means of communication is still word of mouth ... anything that you want totally kept secret best not really done on the

computer' (Pete, MO). In this way CMC was used as a pointer towards other (safer) forms of communication and treated with similar scepticism to other technology such as the telephone: 'we use phones all the time but we wouldn't say particular things that are incriminating and that definitely goes for emails' (Blue, Lyminge Forest). Devin (McSpotlight) reasoned 'in the same way as I will talk about some things on the phone and won't talk about other things on the phone, I talk about some things on email and I won't talk about other things on email'.

If CMC is in the public domain and word of mouth is the only secure form of communication, then any interaction via CMC could unwittingly give additional intelligence to environmentalists' adversaries. Opponents can view environmental websites and join email networks to monitor discussions: 'it has also made it a hundred times easier for those who are trying to stop us to stop us, by giving away all our plans in advance' (Tony Canning, IT technical and support manager, FoE).

Information can be gathered not only about future plans but 'there is also a certain amount of profiling of you that can be built up on the internet very easily by matching groups of people who email each other and building up pictures of who is connected to whom' (Devin, McSpotlight). Moreover, CMC is text based and communications are often archived which increases the possibility of such communications being used as evidence of illegality: 'emails are written down, it can get forwarded, its quite often stored somewhere, if there was some sort of trouble during a direct action and then it would be possible for people to get access to your computer, they might be able get a record of what you were going to do' (Tristram, GSN).

### *Experiences of counterstrategies*

In addition to interviewees perception of surveillance, several had experienced it. The content of emails has been used to inform intelligence gathering. When organising a rave, Police pre-empted efforts: 'they found it from the internet, they'd managed to find the hidden room [on the website], pull out where the map was, and they were there ready and waiting for us' (Albert, MO). Furthermore, emails sent by Mark Brown were used in a court case against him relating to the organisation of the anti-capitalism protest on 18<sup>th</sup> June 1999, 'his involvement was said to have been revealed in a vast number of emails found on his home computer by police' (Anon, 2000i).

Two cases of environmentalists' ISPs deciding to terminate the activists' use of CMC were evident. In both cases the ISPs were University servers, not commercial entities. RTS and EF! used to host their websites on the Westminster University server. However, in July 1998 a sensationalist story appeared in the *Mail on Sunday* which drew attention to the fact that 'much of the information about these eco-attacks [against genetic crops] comes from items posted anonymously on a computer website at Westminster University' (Paterson and Lewis, 1998). Consequently, the activists were informed that they had to remove their sites despite the fact that 'there has been no suggestion that their content breaks any law' (Holderness, 1998). In addition, Oxford University attempted to withdraw a GSN members use of his email account for using a signature which was a possible incitement to breaking the law but which he inferred as a 'blatant anti-green/radical bias ... it seems part of their message says that I cannot use university IT services for campaigning' (posted to GSN).

Some opponents who objected to the content of activists' websites also attempted to shut them down. GreenNet had a couple of cases where companies asked for sites to be removed but they declined. After the (S)hell action on 4<sup>th</sup> January 1999 at Shell's headquarters in London, where photos of the office occupation were displayed simultaneously

on a website, Shell 'phoned up and did some sabre rattling. They said they wanted it taken off immediately' (Chris, (S)hell). (S)hell resisted, however, arguing that there was nothing illegal about the website. In other cases interviewees' computers were searched: 'Greenpeace did get a raid at one point when the police came and copied everything off their computer network' (Tony Canning, FoE). Furthermore, the Hunt Saboteurs Association (HSA) has received several offensive messages via email since the launching of their website. In response HSA posted these messages on their website in unedited form along with the source email address, which triggered apologies from several posters.

#### *A temporary freedom?*

If CMC is monitored and interviewees are experiencing counteractions on-line, then perhaps use of CMC for environmental politics has a limited time frame. A few interviewees suggested that CMC only provided a temporary space for environmentalists' use which would eventually be restricted by legislation or its development into a corporate medium: 'the whole internet legal thing is obviously constantly evolving ... it's a case of the law playing catch up then I suppose ... in which case you might go back to fly posting things on walls all over again' (Dave, GSN).

Several interviewees feared that legislation was gradually catching up with CMC and beginning to curtail the freedom of the technology, so that 'I think legislation is going to be more bad than good, because it will stop people having a view point and trying out new thoughts or ideas on the internet' (Kirsty Sunderland, Information volunteer, CAT). Existing copyright and intellectual property right law is being extended into CMC. However, many still felt that legislation would not be enforceable and that 'I think people continue just to use it, and to break those laws and internet laws which are very difficult to enforce because it's round so many countries' (Rachel, Earth First!).

In addition to specific internet legislation, there were also fears that adversaries (state and corporate) were increasingly able to apply pressure upon ISPs to discontinue hosting environmental CMC email lists and websites of which they disapproved: 'pressures are being applied to commercial servers, recently exemplified by the long list of 'unsuitable' newsgroups recently sent out to all UK servers by the Police' (Urban75, 1996).

In addition to state influences there were fears that academic institutions were not the most suitable places to host radical websites (despite them often being provided for free), 'all it takes is for somebody high up to have vested interests ... you just need to look at Imperial, whose rector is a director of Shell' (posting to GSN). Several interviewees voiced concern that CMC was gradually being taken over by such corporate interests – both in terms of controlling the means of access and in dominating CMCs content. As CMC develops some interviewees fear that control of the technology and servers necessary to access CMC will become dominated by corporate interests 'the only strength the internet has is as an international communication network. The second it's under control it's lost that and it just becomes just another media medium' (Albert, MO). Thus it effectively becomes a mirror image of off-line mainstream media.

This convergence of corporate interests and the technology would enable users to access it more easily (for example via new innovations developed to corner a market such as accessing email through digital television), but simultaneously reduce the space for subversity: 'the future of it is still under debate and it's probably going to end up being controlled by corporations' (David, Media Liaison, NE Green Party).

As content becomes dominated by commercialism, activism is pushed to the edges of the medium filtered out by ISP portal guided channels of surfing. Thus, Mike (Lyminge Forest) sought to encourage use of CMC which not did play to the corporate rules, 'if you have information you should put it up on the internet, make sure it is free, sod copyright. So much information isn't shared'. What is not excluded can also be assimilated. For example, Mike Slocombe (coordinator of Urban75) 'just turned down a large corporate on the basis of them being dodgy ... it would have been a lot of money ... but it's not worth it'. Such an offer tallies with Cleaver's (1995) experience of receiving 'lucrative proposals to sell-out by funnelling our information to corporate inventors' (p.12).

Despite these threats of CMC becoming a corporate medium however, Bob (McSpotlight) remained optimistic:

there was a feeling that ... it could be a bad tool and that we were fooling ourselves to think we could play with the big boys and that we knew it was the remit of corporations etc, and that we were gonna be lost on this superhighway of adverts and for sale signs ... I think even now the sceptics have turned round and said it is a very powerful tool and it's up to how you use it.

(Bob, McSpotlight)

Laptop Mike (RTS) similarly suggested that although 'there is an unresolved question about the internet as a whole, about the extent of corporate control ... all attempts to impose editorial policy are leaky'. James (Earth First!) further suggested that activists might simply retreat from corporate occupied (cyber)spaces and form spaces free from infringement, in much the same way as some environmentalists have developed semi-autonomous communities.

CMC is becoming torn between two diverging visions – the internet without a centralised authority with many-to-many communication, and the other dominated by large monolithic information providers and imposition of the old style mass media values. Many interviewees feared that the latter would gain dominance.

### **Adapting CMC use to overcome the perceived threats**

We do not yet know how sophisticated state monitoring of our electronic networks is, if it exists at all. At this time, the police seem to be playing 'catch up', but we should not assume that they will be so naïve in the future. Further attention must be paid to the use of secure web and e-mail services controlled by ourselves, and to the use of strong encryption software for increased security.

(Amusing Pseudonym, 1999)

Little research has investigated the ways in which environmentalists seek to subvert surveillance. However, activists have employed security measures and sought to prevent legislation of CMC. Environmentalists have argued that electronic activism was essential in order to maintain the right to protest, challenge the influence of e-commerce and enforce the need for a CMC free from legislation or corporate control (Drew, 1995; CAE, 1996): 'If the state and corporations cannot tolerate dissent in cyberspace, then they will have a widespread, and legitimate, backlash from those already using the media for this purpose before the advent of e-commerce' (DJNZ, 2000, p.10). However, unlike the US based Electronic Frontier Foundation which sought to prevent censorship of CMC and the UK based Cyber-Rights and

Cyber-Liberties organisation, no specifically environmental groups have been set up to protect CMC (Jordan, 1999a).

In 1994 O'Hara argued that environmentalists were not very good at security (O'Hara, 1994). By the late 1990s interviewees illustrated an awareness of the many security problems posed by the use of CMC for environmental activism. Despite this recognition few employed specific measures to prevent on-line surveillance and fewer still took actions to avoid the imposition of legislation upon CMC use or the commodification of cyberspace.

This section details the ways in which the perceived threats informed and affected interviewees' CMC use and what tactics they employed to curtail surveillance and counterstrategy. It explores whether interviewees adjusted their campaign strategies to account for the on-line surveillance they understood to occur, or whether alternatively interviewees sought to adjust the technology to protect the security of their information flows.

### *Restricting what was posted and discussed on-line*

The simplest measure to ensure security on-line was to restrict what was posted on-line. There was a boundary to interviewees' use of CMC, a cut-off point where planning and discussion of actions was moved off-line for security reasons. This point, however, was ambiguous and contested amongst those within the environmental movement, thus creating tensions as to what extent planning should be secret, or whether on-line surveillance is actually occurring. In order to standardise some form of approach, FoE issued a warning on the Campaign Network email discussion lists: 'Avoid discussing sensitive campaign material with the group, especially any future strategies, tactics, or actions, as there is no guarantee that the discussion group is secure' (Ritchie, 1999b).

Material that was posted onto campaign websites was also vetted for security reasons. At Lyminge Forest, a 'lot of defences we wouldn't put on it for obvious reasons, we don't want the tunnels being on a website where anyone can get information' (Matt, Lyminge Forest)<sup>72</sup>. Although remaining anonymous on-line requires some diligence, some interviewees thought it worth the effort: 'you just have to make sure that you only ever log on from a Cybercafe or at University, there are plenty of dead university accounts that you can just borrow, and then as long as you never actually use your real name you are just a computer out there somewhere' (Chris, (S)hell). Ed (GSN) noted the problems of using a University email account where your name and University affiliation are clearly displayed in the address. Instead he proposed that activists should use more nondescript accounts, such as:

Hotmail, I can see that as a way for people to send whatever messages they want without worrying whether it's being traced. Perhaps they can trace what computer it came from, or what area, but its not the same as when you email somebody and they know which university you are writing from and they've got all your details.

At McSpotlight, due to the contentious nature of the issues and the possibility of litigation, the authors of the website tried to remain anonymous (although some names have since become synonymous with the site), 'a lot of people wanted to work on it but didn't want their names involved ever and were quite nervous about sending emails and was it being tapped' (Jessy, McSpotlight). In addition, the core group (who established the site) was disbanded as 'we felt that if the core group was kept going it was a target' (Bob, McSpotlight) and thus 'even if their [McDonalds] legal action was successful, it would not help them in their attempts to silence McSpotlight since no individual or group of individuals are central to the running of the site' (Anon, 1997k, p.9).

### *Protecting what was posted and discussed on-line*

Rather than limit on-line discussions some sought to protect their on-line networks from surveillance and counterstrategy. FoE installed a 'firewall' to protect their internal computer network. This prevented hacking and known spammer emails coming into FoE: 'it contains a lot of internal information which we would obviously not like the general public seeing - internal documents, current campaign priorities, and staff information. It has information about what FoE is planning for the future' (Tony Canning, FoE).

Other cases had not employed as robust a security system, but some activists tried to encourage awareness of the need for computer security. For example, at an Earth First! summer gathering there was a workshop specifically about computer security which explained how to encrypt a PC hard drive to prevent police access if they seized it.

Anonymity works against the need for trust in action organisation, and thus there were times when names had to be used. Thus a few interviewees used encryption, especially Pretty Good Privacy (PGP), 'you can use email and PGP and things to send private messages to one another without the worry of anyone ever finding out' (Merlin, Lyminge Forest). There was limited use of encryption, however, and it was not failsafe, 'the weird thing with encryption is that by the very fact of sending encrypted mail it draws attention to you' (Chris, (S)hell). Even if it goes undetected it only takes a small mistake to defunct the security: 'even if you use encryption, you may still get things on your computer that for example read the letters before you encrypt them or while you encrypt them. It's really hard to make it secure, even if you use things like PGP' (Michael, Earth First!). Furthermore, few knew how to use PGP and believed 'my powers of encrypting are well below their [opponents'] powers of de-encrypting' (Mary, Peace Action). If activists were able to use PGP, however, they would have been using what is generally regarded as uncrackable encryption.

Additional security measures employed to protect what was posted and discussed on-line included activists running their own servers, using foreign hosts and establishing mirror sites. FoE, SchNEWS (and (S)hell) had direct control over their servers. McSpotlight used a foreign host for their website - xs4all based in Amsterdam 'where the libel laws are the most agreeable' (Devin, McSpotlight). Furthermore, McSpotlight set up several mirrors to their site located round the world. These mirrors meant that if one site was removed or shut down, the others would still remain for the public to access. Part of this back-up plan was the distribution of the McSpotlight kit which was a text only version of the McSpotlight site, 'so if McSpotlight was going to be stopped we could send out an emergency, everybody could take a copy quickly and there would be copies all over the world' (Jessy, McSpotlight). These security measures freed McSpotlight from localised counterstrategy measures:

If McDonalds had said this server in this country is causing us offence, we want it shut down and a judge had said yes, then the servers round the rest of the world could still be accessed in the country that it was found to be offensive in. So it makes McSpotlight a moving target and the leaflet a moving target, it's much harder to shut down.

(Gideon, McSpotlight)

Despite this variety of ways in which CMC information was protected by some interviewees, however, the majority did not employ them, 'most people are probably a lot more excited about being able to email each other than they are about worrying about encryption and security' (Tony Canning, FoE).



### *Using CMC to maintain the freedom to protest*

CMC has also been used as an avenue through which to maintain the freedom to protest. To vent their objections to specific corporations' operations some environmentalists have used CMC as a medium through which to 'brand-bash' – such as McSpotlight. By being public about their anti-corporation views, McSpotlight were benefiting from the public nature of CMC, curtailing McDonalds' options for response: 'we were all quite ready for them to sue, but they couldn't ... we were so throwing the gauntlet down and taunting them that it would have been so stupid to' (Jessy, McSpotlight).

As discussed in chapter five, websites were also used to mock official corporate sites such as the World Trade Organisation. These sites offered alternative non-corporate versions of the way things were. The activists' very existence on the internet was an attempt to counteract the corporate greenwash.

Environmentalists have been also amongst the objectors to recent changes in CMC legislation. There has been a plethora of articles condemning the imposition of the Regulation of Investigatory Powers (RIP) Act which have appeared in the alternative media, most of which have called for the total abandonment of the legislation (see Anon, 2000g; Anon, 2000f; Anon, 2000c). The Act enabled Police to gain easy access to all ISP records. Of the ISPs sympathetic to environmental activism, GreenNet spoke out against the Act and worked to try either to table amendments to the Bill or get it withdrawn in its entirety (Anon, 2000h). Many environmental critics also included advice on how to avoid the repercussions of the RIP Act<sup>73</sup>. There has been a similar response to the Prevention of Terrorism Act, which although was not specifically related to CMC could still have a significant impact upon the environmentalists' activities. Furthermore, on 4<sup>th</sup> March 2000, there was a demonstration at Menwith Hill (the US Spy Base in Yorkshire). Many of those present took part to voice their objection to on-line surveillance and interference in CMC (namely the ECHELON<sup>74</sup> project). In addition to demonstrations, some activists called for laws impinging on their activities to be ignored. On GSN, a participant implored 'don't be scared off by the thought police. Make all your emails illegal by putting in reports of your favourite actions' (posted to GSN).

In addition to these attempts to subvert surveillance, environmentalists were able to use CMC to monitor some of the activities of their opponents. Chris ((S)hell) used the logs from his website to determine who had visited and read the site. This method was used after the office occupation at Shell headquarters (4<sup>th</sup> January 1999) to determine what effect the action had on its target: 'we had more hits than ever and mostly from Shell employees, it was really gratifying to see that they were all actually taking an interest in having a look ... word obviously got round the industry because the second biggest major source of people looking was Texaco' (Chris, (S)hell). Moreover, the technique of tracing CMC use to its source was used on the N30 email discussion list to uncover the identity of a suspected corporate protagonist.

### **State counter-responses**

As environmentalists have used CMC to target particular opponents, state and corporate adversaries have begun to take the threat from on-line activism seriously and to employ multifarious tactics to disperse any danger they have perceived. The state seeks to accommodate, appropriate and repress varying different aspects of the environmental movement. In the extreme it aims to prevent the more radical aspects of environmental protest from operating effectively while legitimising more moderate components.

### *Creating or modifying legislation*

The British Government has passed several pieces of legislation which have directly or indirectly restricted environmentalists' rights to protest. The 1994 Criminal Justice Act effectively outlawed many environmentalists activities which were previously legal (Collin and Godfrey, 1997). The 1996 Security Services Act redefined 'serious crime' to include 'conduct by a large number of persons in pursuit of a common purpose' (Lodge, 1999) which could easily apply to environmental action. Many activists tactics were deemed terrorist by changes to the Prevention of Terrorism Act 2000 and subsequent anti-terrorism legislation passed in the aftermath of the September 11<sup>th</sup> attacks in the US (Ford, 1998; Wadham, 1999; Norton-Taylor, 1999). Legislation has also been imposed heavily to discourage other activists - environmentalists have been charged with conspiracy and faced heavy bail conditions (Rowell, 1996).

Despite technical difficulties in restricting who can use CMC because of its basic nature as a dispersed network, those in the British legal system have argued that CMC will not be treated any differently from any other existing medium (Batchelor, 1995). Legislation is being passed which allows for cases of libel, defamation and copyright protection to be served against text written on web pages and within emails (Tang, 1997; Engel, 1997b). An ISP can be sued for what they have allowed to be published under the UK Defamation Act 1996 once they have been made aware of its existence (Middleton, 1997; Martinson, 2000). Consequently ISPs were adding restrictions into contracts with their customers which obliged their users not to break the law and thus relieving the ISP of any criminal responsibilities. However, the imposition of such laws is restricted by the difficulty in defining what constitutes publication in CMC, in identifying the publisher and in jurisdictional problems (Carey, 1997; Middleton, 1997; Smith, 1996). Finally, the British government is also seeking to prevent the use of anonymous remailer programs which allow a CMC user to disguise their identity (Bowden and Akdeniz, 1999).

### *Monitoring CMC use and using information for intelligence*

Police authorities have used on-line material to inform their intelligence. In the past environmental activists, such as Reclaim the Streets, have had their houses raided and computers and discs seized (Chesworth and Johnson, 1997; Lodge, 1999). Furthermore, the Key Word Recognition System scans electronically 'every day hundreds of thousands of faxes, telexes, electronic messages and phone calls are scrutinised, sorted, selected and analysed' (Riviere, 1999)<sup>75</sup>. The RIP Act gave significant powers to the state for CMC surveillance (Sommer, 2000). As a result UK ISPs are obliged (if requested) to install a remote controlled black box which relays all data passing through their network directly to the Government Technical Assistance Centre (GTAC) (Greenslade, 2000; Clarke, 2000a). This would enable traffic analysis of emails as well as websites and discussion groups visited (Doward, 2000; Kite, 2000). Thus, the state would be able to access 'a persons "clickstream" – the virtual record of his or her train of thought' (Bowden, 2000, p.26).

A unit of the Special Branch at New Scotland Yard, London, monitors environmental activists, including monitoring of their internet use<sup>76</sup>. Detective Constable Steve Edwards, of the Open Source Intelligence Unit (OSINT), Metropolitan Police, confirmed:

The Metropolitan Police has been researching the use of the internet and other on-line services for some time now and we have known that the WWW was being used by radical groups and those intent on causing obstruction and disruption for the purpose of organising and publicising their activities.... My job in OSINT is to use the internet (and other services) to provide operational and strategic

intelligence in certain specialist areas.

Commander Judy Davies of the City of London Police, also confirmed that the Police Unit undertook surveillance of environmentalists' websites (Newsnight, BBC2, 29<sup>th</sup> November 1999). In addition to the use of on-line information for intelligence, the City of London Police placed seventy photographs of activists taken during the J18 actions on the City of London web site. Observers were invited to inform the Police if they had any information about the activists' location. It was claimed by a Times reporter that eight arrests were made after their images had been displayed on the web page (Anon, 1999k). This use of CMC by police was unprecedented. Although they have previously utilised the mainstream media by releasing photo-fits of suspects and running television programmes, such as Crimewatch, posting photographs on a web site enabled them to reach a different audience and effectively utilise the same technology as the activists. Furthermore, no mention was made of the specific crimes the suspects had apparently committed.

### *Overhauling their way of distributing information*

Many components of the state have a duty to react to environmentalists' concerns. The Environment Agency (EA) is one such statutory organisation and is the official regulating body in charge of protecting Britain's environment. The EA has come in for criticism from FoE for not providing enough of their information to the public for free and in an easily accessible form. In 1995 FoE used a set of EA data about emissions of polluting substances from industrial processes and produced the CRI on the FoE website. As a result the EA was further criticised and pressured to respond by producing similar interactive maps of their datasets.

The EA does not perceive that they are in conflict with environmental activists, rather that they are fundamentally working towards the same goals using differing tactics. The CRI, however, created tensions both between environmental groups and the EA, and within the EA (as how to respond). The EA was restricted in its ability to put environmental information on the internet by dataset suitability, problems of updating data, and cost. The datasets were not all easily accessible electronically, and many were in differing formats. The datasets also had different levels of accuracy and quality. Once on-line the datasets would have to be updated regularly in order to be accurate (as an official body the EA could not be seen to be using out-of-date data), which in itself is a huge task. Finally, because the datasets are so large and expanding, the cost of putting them on-line is huge and continuous, it needs to be prioritised by those of a high level in the organisation. Consequently, the EA has found that:

it's much easier for someone else to take one of our data sets and put it onto their website because they can do it as a one off, whereas as soon as we put it on we have to manage it and update it every day, week, month or whatever.

(Paul Deane, Internet Manager, EA)

In response to the criticisms of its data provision on-line the EA has expended time and money into sorting its data problems to provide local level data, with a program of convergence of its datasets. The EA is also attempting 'more interactive ways of doing things rather than just posting information onto web sites' (Paul Deane, EA) as 'we are trying to react to public and non-governmental body pressure to include that interactivity' (Richard Saull, Data Manager, the National Centre for Environmental Data and Surveillance, EA). Decentralisation has begun, 'we're steering very much away from central control, just what

I'm managing at the moment, that devolution of power' (Paul Deane, EA) with the end result aiming to provide more locally specific information.

The website is also used to provide more services, thus bypassing some bureaucratic structures. The EA website ([www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)) was used to display the *State of the Environment* report, which aimed to inform the public of the current situation, what gaps there were in the dataset and what were the core issues for the environment. An aim of using the internet was to facilitate greater access to their datasets of environmental information and provide it in an interactive and interesting form. The EA has also tried electronic consultations, and has a feedback section on its website. In these ways the EA is attempting to incorporate public views and be seen as accountable to the public.

On balance, it is likely that the EA would have moved towards providing better environmental data on-line without the actions of FoE. However, the CRI did illustrate both the problems and potential of the internet for public environmental information distribution. The EA's response was not one of hostility, but to examine their own information provision strategies and develop processes to improve their web presence.

### *Not responding*

Finally, Kent County Council (KCC) was an example of a state body whose staff had sympathies with environmental demands but did not see it as their role to respond to on-line activism. In the Environmental Management department there was a deep and genuine concern for the environment and a general sympathy with the protesters at Lyminge. Any Council has a mixed bag of responsibilities, which include the business interests of the county and the environmental concerns of its residents. This was further complicated by the previous activities and affiliations of their County Environmental Management Officer, Pete Raine. Raine, the former director of Kent Wildlife Trust (who had given evidence against the Rank development at Lyminge) and the Centre for Alternative Technology (1980-1986), had worked for FoE Birmingham, was a local resident of Lyminge, and 'I've done some fairly radical things in the past' (Pete Raine, KCC).

KCC was involved in Lyminge by being 'responsible for providing ecological advice both within and without the County Council when it comes to planning applications' (Pete Raine, KCC). Although Pete Raine had visited the forest he had not seen the protesters' website and KCC were, at the time, using internal email but had problems with their external server. KCC's use of CMC (through an intranet and website – [www.kent.gov.uk](http://www.kent.gov.uk)) did not appear to be in any way a response to activists' use, but a result of slow moving County policy. In terms of environmentalists using CMC to communicate their ideas, Pete Raine was very supportive, but worried that the information was often biased. By 2002, however, KCC was running their own internet campaign, using their website to protest against a proposed airport to be constructed (the Cliffe proposal) in the county (see [www.kent.gov.uk/coreinfo/cliffe](http://www.kent.gov.uk/coreinfo/cliffe)).

Many components of the state are in an ambiguous position when it comes to dealing with environmentalists' demands. While illegal activity is repressed, some government agencies have a duty to respond to environmentalists' concerns by altering their practices. This variety of response has been illustrated by EA responding to FoEs criticism by re-organising their system of distributing information, where as the police are using material from on-line sources to inform their intelligence gathering operations.

## Corporate responses to on-line activism

The target of many environmentalists is often big business for their involvement, and profit from, environmental destruction (Scott and Street, 2001; Brabbs, 1999). Corporate counter-tactics include environmental advertising, adopting the language of the environmental movement (such as 'ozone friendly' aerosols), influencing the mainstream media, and censoring criticism (often using libel laws<sup>77</sup>). Companies also attempt to isolate the radicals and co-opt moderates (thus dividing the movement) through public relations strategies, and even setting up pseudo green groups which are a front for corporate sponsored anti-environmental propaganda (Rowell, 1996; Beder, 1997; Klein, 2000a; Janssens, 1999).

Corporate use of CMC is rapidly expanding as many companies utilise the potential of the technology as an additional advertising tool, an on-line marketplace (for their brand), or for business to business interaction (Rushkoff, 1998; Reed, 1999). CMC is becoming increasingly commercially commodified (Resnick, 1998; Kellner, 1998; Cleaver, 1995). Such corporate forces threaten to subvert the internet's democratic possibilities by practising censorship to protect their brand image (Klein, 2000a; Vidal, 1997a). Rushkoff (1998) argues that big business and activists cannot co-exist in cyberspace because companies are pushing the development of the web purely as another selling device: 'the only space left for interactivity will be our freedom to watch a particular movie 'on demand' or, better, to use the computer mouse to click on an object or article of clothing we might like to buy' (p.226).

The way in which many ISPs are set up also prioritises certain websites over others. Service providers such as AOL and Microsoft provide recommended 'channels' for CMC users to surf through which categorise certain websites into interests, such as shopping or sport. The way in which such sites are chosen, however, is not clear and not surprisingly they consist mainly of the big brand companies rather than independent sites. In this way the ISPs encourage the branding of cyberspace. Filter programmes have also been developed such as 'Nanny Net' by industry for parents who are concerned about what their children might view through CMC. However, the process of choosing which websites are listed and thus restricted through such software has resulted in discrimination, with not only pornographic sites being chosen, but also activist sites too for being politically subversive.

Eight companies (Monsanto, BNFL, Unilever, Tarmac, Rank, Nestlé, Shell, McDonalds) were examined to assess what their responses were to on-line activism. As a result seven tactics were identified, with different companies choosing different methods of response. These were: ignoring the issue; monitoring on-line activity; proactively using CMC to enable debate between them and their opponents; posting counter arguments on-line; reinforcing their computer security to prevent on-line breaches; attempting to remove offending websites; and/ or employing a contractor to tackle anti-corporate on-line activism.

### *Burying their heads in the sand*

The Rank Group are one such corporation who appear to have opted 'for the head-in-the-sand approach, hoping that if they ignore it, it will go away' (Reed, 1999, p.2). Rank were the target of Lyminge Forest protesters because they were behind the planned holiday complex development. Rank's web site ([www.rank.com](http://www.rank.com)) contained no mention of the proposed development but did detail their other portfolios. Rank refused to comment about the way they used the internet, or about the protesters web site.

### *Monitoring on-line activity, assessing public opinion*

Several companies monitor environmentalists' on-line activities to understand the extent of the risk to their business: 'The actions and opinions of online communities are beginning to have a serious impact on public relations, investor relations and corporate brand management' (Lubbers, 2002b, p.118). McDonalds reacted to McSpotlight initially by reading what was posted on-line, 'in the first week something like 2,500 times the McDonalds main computer accessed McSpotlight' (Jessy, McSpotlight). Furthermore, Unilever used Infonic services. Infonic is a British based internet intelligence service which aims to 'explore the internet for content impacting on our clients' business or brands' (www.infonic.com) (Lubbers, 2002b).

Some companies have used environmental material posted on-line to assess the mood of public opinion (Brush, 1996). For example, Unilever 'monitors the internet to appreciate how it is viewed by stakeholders and other interests and to understand how different groups view questions of relevance to Unilever. Internet derived information, combined with that from other sources informs Unilever's management of its public reputation' (Anne Weir, Corporate Relations Department, Unilever). Similarly, for Tarmac 'protest groups such as Manchester Airport Runway2 have used the internet and we find the sites very useful in giving us an insight into what the protest groups perceive to be the major issues' (John Davies, Group Media Relations Manager, Tarmac). Though neither Unilever nor Tarmac mentioned how such information is then used and whether policies or PR are altered as a result.

In contrast, Nestlé was more explicit in the way it reacts to on-line opinions. They use the information to gauge any public fears: 'it prepares you in terms of people who will then ask you questions' and if a new criticism emerges it is verified and checked, 'occasionally something new comes up and we will look into things if we find out information that way' (Nestlé spokesperson). This information is then used as a form of monitoring policies and if necessary they alter their processes. However, Nestlé were able to dismiss many of the criticisms they received, because 'you can't just focus on a small activist group saying something out of turn because at the end of the day we have to accept as a big company there will always be some people out there who don't like us' (Nestlé spokesperson).

Commercially there have been several attempts to build up databases of companies' on-line visitors and customers. Such surveillance is predominantly operated through the deployment of 'cookies' that identify repeat users and their details. However, Intel has developed a processor that can identify online users as they traverse through cyberspace with each having a unique serial number further contributing to the mapping of users 'clickstream' (Sprenger, 1999).

### *Facilitating debate*

Other companies have gone further than simply monitoring what is said through CMC and have deliberately sought to encourage debate on-line. Although 'one might conclude that this amounts to a fake openness, for show purposes only' (Lubbers, 1998, p.5) such companies have chosen to interact with their critics rather than ignore them, and have thus become more flexible and fluid in their approach, understanding that the branding and marketing of goods must adapt to the new communications media.

Tarmac have used their web site to generate interaction: 'environmentalists and the public at large have found our internet site to be a most useful method of getting messages, questions to us and we always endeavour to respond with a prompt and informative reply'

(John Davies, Tarmac). Shell attempted to dissipate some criticisms by posting information about their environmental practices onto their web site, including their controversial presence in Nigeria (Reed, 1999). Forums were also established for open debate, giving the impression that 'dialogue was the core concept, and sensitive issues were not sidestepped' (Lubbers, 1998, p.4). There were also links to the web sites of Shell's opponents, such as FoE and Greenpeace. When asked if these forums had been helpful to Shell, Simon May (Internet manager, Shell) responded: 'We were the first multinational to allow open, uncensored forums on their site and the message that that gives out in itself is sometimes stronger than the contents of the forums themselves'. Such attempts to enable debate suggest Shell's commitment to communicating with the public and its critics.

Monsanto can also illustrate such engagement with debate. Although initially Monsanto adopted a defensive position (exemplified by their threat of libel against *The Ecologist* in December 1998) the majority of their tactics have attempted to engage the public in debate. Thus Monsanto tried to shift their position from being the focus of public fears to being part of an open debate.

Monsanto launched a major advertising campaign in the UK in June 1998. This included several full page adverts in national newspapers which included the telephone numbers and web addresses of many of its critics – such as FoE and the Genetics Forum. Monsanto also advertised their own web site ([www.monsanto.co.uk](http://www.monsanto.co.uk)) as a source for further information on 'the real benefits it [biotechnology] provides for both customers and the environment' (Monsanto, 1998a, p.7). In this way Monsanto were responding to environmentalists' use of CMC by countering their arguments on their own web site.

Monsanto continued this tactic of using 'debate' in January 1999 when an online discussion forum was launched on their web site. Here they posed a question<sup>78</sup> and asked for responses, which they then posted onto the web site. This served to enable Monsanto to gauge public opinion and to be seen to welcome and host debate. Although sceptics might suggest that Monsanto could screen responses there were many postings which were hostile towards Monsanto. The extent to which these online discussions are part of a PR strategy rather than a way to take on board criticism is obviously difficult to determine. However, Monsanto did not seem to respond to any of the postings made, despite requests from those involved in the debate. Other contributors noted that Monsanto's web site remained very supportive of biotechnology despite the public outcry.

### *Posting counter arguments on-line*

Several multinationals have utilised CMC as a tool through which to disseminate their message: 'In a medium where preventing activists from making allegations appears unviable, disarming them by issuing a counter message seems an attractive option' (Reed, 1999, p.3). To counter claims made by McSpotlight 'McDonalds offer an extensive file of environmental information with energy saving outlets, reduced packaging and use of recycled materials' (Rumble, 1997). Similarly, Tarmac use their web page ([www.tarmac.co.uk](http://www.tarmac.co.uk)) to communicate what environmental initiatives they are undertaking. Nestlé use the website ([www.nestle.co.uk](http://www.nestle.co.uk)) to promote 'some sides of the company that we want people to know about a bit more' (Nestlé spokesperson). Specifically, Nestlé responded to the criticism over its baby milk formula by having a dedicated micro website, which provides information on 'Nestlé's monitoring and action on compliance with the World Health Organisation (WHO) Code on Marketing of Breast Milk Substitutes' ([www.babymilk.nestle.com](http://www.babymilk.nestle.com)). This use of CMC to respond to specific criticisms has also been employed by British Nuclear Fuels Limited (BNFL). Mark Thomas posed two questions to BNFL about the transport of nuclear

waste through London during his show on Channel 4 television and BNFL posted their replies the following morning on their website ([www.bnfl.com](http://www.bnfl.com)) countering Thomas' assertions.

### *Reinforce security*

Another option available to companies concerned by the threat of on-line environmental activism is to reinforce the security of the computer networks. Although this will not deter the on-line criticisms of company practice, it will help prevent the execution of on-line attacks, such as hacking. Companies in the City of London were advised to update their computer security in the wake of the J18 demonstrations after several were bombarded with emails.

### *Attempt to remove offending websites*

A more proactive response to environmentalists' internet activism are attempts to remove offending websites or discussion lists by threatening injunctions. Companies can pursue the relevant ISP because they can be held responsible for what they have allowed to be published. Despite this possibility of legal action, however, Nestlé, Shell and McDonalds had not taken any action against environmentalists' websites. This was in contrast to numerous threats of injunctions and litigation by multinationals for off-line activities (for example, those employed by Monsanto and McDonalds). This is perhaps because 'The corporate giants are still trying to figure out how to best deal with online criticism. Legal threats and writs are not an effective deterrent when national borders and personal identities dissolve' (Rumble, 1997).

Nestlé found that there was little that they could legally do to prevent on-line activism, 'it's a very unregulated medium which you can't make much effect on in many areas' (Nestlé spokesperson). (S)hell was just one of a number of websites ([www.kemptown.org/shell](http://www.kemptown.org/shell)) which criticised Shell and they added dripping blood to the Shell logo. According to (S)hell, Shell reacted by requesting that the site be taken down. However, Simon May denies this and claimed that Shell did not attempt to curtail the protesters' internet broadcast in any way and that Shell has never taken any action against comments about Shell on-line.

Despite the McSpotlight website distributing the same information that activists were being sued for, no action was taken against the site. This was perhaps because McDonalds did not want to compound the PR disaster of McLibel by taking on the website, or alternatively that they knew of no way to curtail it, 'McDonald's spokesmen say they're concerned with this kind of use of the internet worldwide, but have no way to police it' (Lawrence, 1996). The only attempt McDonalds did make towards attacking the website was to file a case that the McLibel defendants had taken 'part in a 'photo-opportunity' outside McDonald's Leicester Square store' (Lubbers, 1996, p.5) which was part of the publicity surrounding the launch of the McSpotlight website. McDonalds argued that consequently the defendants took part in publishing further the allegedly libellous factsheet. Despite these early moves, however, no further action was taken against McSpotlight.

### *Employing a contractor to tackle anti-corporate on-line activism*

As illustrated through Unilever's use of Infonic on-line intelligence services, there are a growing number of companies which offer corporate clients on-line intelligence services. Companies such as eWatch also advise clients how to deal with on-line activists. eWatch is an American company which tracks discussions in cyberspace about more than 800 of the world largest corporations. The purpose of this is to 'safeguard stakeholder value, improve customer service, protect corporate reputation, monitor competition, identify trends, and pinpoint corporate activism' ([www.ewatch.com](http://www.ewatch.com)). In the past they even offered a *Cybersleuth* service



which identifies the entity behind the screen names which have targeted particular organisations (Lubbers, 2002b).

### **A new haven for activism or a temporary space of resistance?**

Contrary to reports (such as Vidal, 2000a and Reed, 1999) environmentalists' corporate adversaries have undertaken multifarious actions in response to on-line activism. Although it is difficult to discern what actions have been specifically taken (as companies prefer not to divulge too much detailed information) most have responded to activists' use of CMC. This indicates that environmentalists' internet presence had has an impact upon their opponents' operations, though most companies maintained that on-line activism was not a serious threat to their activities.

Environmentalists perceptions of surveillance and the multifarious ways that state and corporate bodies attempt to counter on-line activism confirms that CMC is a contested space of conflicts: 'cyberspace is a site of struggle, rather than a straightforward liberation or domination' (Froehling, 1997, p.293). Environmentalists have utilised CMC as a new public sphere, which they could colonise to their advantage (O'Lear, 1997). The original optimism of the power of CMC, however, has now been tempered by threats of surveillance and counterstrategies perpetrated by the state and activists corporate adversaries. The state and corporate sources corroborated that the threats to environmentalists' on-line space of activism are real and practised.

Although some interviewees viewed CMC as a safe haven, the majority were sceptical of the security of the technology. In response interviewees were split between those who sought to avoid the surveillance, and others who less optimistically suggested environmentalists use of CMC would only be temporary. Few interviewees were prepared to give up their use of CMC and instead made adjustments to their use, such as basic precautions against surveillance by restricting what they posted on-line. A few took further action by attempting to protect what was on-line using increased computer security, encryption, foreign hosts, their own servers and mirror sites. Others also used CMC as a space within which they could be subversive and break laws. Despite these tactics to avoid surveillance and the optimism of many interviewees, several suggested that their use of CMC was gradually becoming marginalised, the space which they could safely and freely use being narrowed. Thus some feared that their use of CMC would only be temporary.

Interviewees tended to err on the side of caution in their attitude to surveillance. While some were quite paranoid, many did not even trust the use of encryption such as PGP which has proved quite unbreakable. Furthermore 'decryption is far, far harder than encryption' (Wood, 2002). While this caution is useful in protecting activists from surveillance, it is also a form of self-censorship which might negate advantages of using CMC without adversaries actually having to be proactive. In this sense, there needs to be some consideration of whether such cautious attitudes to surveillance are actually productive for activists in the long run. This dilemma can be further articulated by Lessig's (1999a) understanding of the battle of control over the code of cyberspace, as the key battle for control over use of CMC. If activists concede too quickly, then control of the code, and cyberspace, will be forever out of their hands.

This struggle for space within CMC technologies, a struggle between environmentalists and their adversaries, represents both parties attempting to benefit from the

opportunities offered by CMC. Gradually, however, environmentalists' adversaries have sought to limit this opportunity by imposing legislation and commodifying CMC. Whether they will ultimately be successful in closing this opportunity to environmentalists is determined in part by how quickly environmentalists respond and with what skill. Interviewees illustrated that they are discovering how security conscious they need to be on-line and as a result a few were involved in a constant process of innovation to keep ahead of any threats to their security. It is unclear, at this stage, whether enough action has been taken.

The realisation that CMC is as infused with threats and hazards as off-line space indicates that environmentalists have moved beyond the early stages of technology use. They are no longer oscillating between viewing the technology through utopic or dystopic perspectives, but have a more critical perspective of the technology. It may be that environmentalists will win the battle for space, continuously evolving their tactics to remain one step ahead of their opponents.

Alternatively, there may come a time when CMC use is no longer an attractive option for environmental activism. If, as some interviewees suggested, CMC use by environmentalists will only be temporary, terminated by state legislation and corporate influence, the future of environmentalists' on-line activism looks bleak. If CMC was only a temporarily contested space environmentalists will be unable to base their politics upon it, and will have either to revert to their old forms, or explore new technologies and techniques. However, once CMC becomes commodified, environmentalists might be able to recreate parallel spaces of resistance in the margins as activists have in off-line society:

Soon the Net will be a closed mass medium with little or no room for new players. But we can then begin to build parallel networks, underground systems, somewhere in the margins. Wonderful subcultures will blossom ... There is still enough time to create parallel, independent infrastructures in which cyberculture can re-invent itself.

(Lovink, 2000, p.4)

Environmentalists have already been able to resist this encroachment to an extent, and 'although many battles against the forces to re-craft cyberspace into cyberspace.com have been lost, the fight – and dance – is not over' (Silver, 2000).

## 7: Cyberprotest; a new politics of protest?

Protest movements are continuously appropriating new technologies. The telephone, still camera, video camera, mobile phone, and fax machine have all been utilised (Harding, 1997). In many ways CMC is simply one more addition to this list. The question at the crux of this book, however, is whether the ways in which CMC is being utilised enables fundamental changes in the way environmentalists organise themselves, the tactics they develop and even the influence and success they can achieve.

In *The Internet Galaxy* Castells (2001) asks whether the internet has just an instrumental role for social movements or 'is there a transformation of the rules of the socio-political game in cyberspace that ultimately affects the game itself – namely, the forms and goals of movements and political actors?' (p.137). In response he identifies three components of contemporary social movements for which CMC has been indispensable: in the mobilisation around cultural values; in organising in a non-hierarchical manner; and in activists rooting themselves in a local context while acting at the global level.

The empirical evidence explored in this book correlates with such assertions and suggests additional components. However, the technology use did not trigger such changes. To suggest so would unadvisedly advocate to technological determinism. More importantly these were existing trends prior to CMC utilisation. Rather, analysis of environmentalists' use of CMC not only helps explain these trends but also suggests that CMC has helped sustain them. Thus, as will be outlined more clearly in this final chapter, environmentalists' ability to organise non-hierarchically, attempt to anchor action in local contexts, and initiate a variety of tactics simultaneously, amongst other trends, were existing propensities within the movement. Yet CMC has enabled them to more easily sustain such tendencies and thus more easily achieve their goals. Furthermore, the goals themselves remain familiar. In this context of reinforcing and maintaining existing forms and processes it is doubtful whether, at this stage, CMC use has 'transformed the rules of the game'. CMC use has reconstituted old ways of operating within the environmental movement, but these have yet to dramatically 'affect the game itself'<sup>79</sup>.

This chapter explores this issue further in four parts. To begin it is pertinent to acknowledge that only the early stages of CMC use were examined and yet that this is a crucial period that determines future frameworks of technology use. Following this, how changes identified in the preceding chapters are influencing environmental politics is explored and thus what challenges remain for environmentalists both on- and off-line. Given these changes and challenges it is possible to extrapolate this specific study to the broader implications of CMC use for social movements. Finally, in the context of these changes the chapter concludes by examining the possibilities for future on-line activism.

### **The early stages of technology use**

This book explored the early stages of CMC use by environmentalists in Britain. Many of the activists and organisations examined in this research only began utilising the technology in the mid-1990s. Although it could be argued that studying these early stages might not lead to an inclusive examination of CMC use, it is in these early stages that some of the key determinates of technology use are dealt with, which impact thereafter on CMC use.

As with many other technologies the early stages of use are characterised by a perceived dichotomy between the utopic or dystopic possibilities through the use of the technologies. Such forecasts dominated the early stages of CMC use (Breslow, 1997). With time, optimism and fears become diluted by the complexity of individuals' experiences of using the technology as its use becomes more integrated into everyday lives. These experiences serve to 'normalise' the use of CMC. Depending upon the way in which use of the technology develops, many of CMCs potential advantages for environmentalists may be restricted (by the imposition of laws and regulations, or the commercialisation of CMC) or expanded (through more numerous and cheaper points of access).

The ways in which the tensions that environmentalists face in their early use of CMC are resolved is thus of crucial significance to the future use of the technology. The struggles between the corporate and political disputants on the one hand, and activists on the other (and between the environmental activists themselves) as to how CMC should be used and governed, serves not only as an indicator of how CMC might be constituted in the future, but as an example of the way in which society develops, treats and uses new technologies. Furthermore, the catalogue of choices made by environmentalists over how they incorporate CMC into their campaigning, organisation and everyday lives, and on what terms they accept the technology, is indicative of the way in which activists seek only to practise tactics or organisational forms which reflect their overall aims (for example, organising in a decentralised manner to achieve a decentralised state). Consequently, although this book will quickly become a historical account of CMC use, it is no less relevant for its time-specific context. The ability to examine these processes of negotiation around the use of CMC as the debates are occurring provides insight into the way in which CMC use, as practised in the twenty first century, was constituted in the decades beforehand.

### **Altering the forms and processes of environmental politics?**

Cyberspace is a site of resistance for environmental activists in Britain – a technology through which a radical democratic form of what Kellner (1999) calls 'technopolitics' could be advanced. The ways in which CMC is used is complexly embedded within existing social relations and attitudes. CMC is not a neutral, value-free, tool waiting to be appropriated, but one with constraints (logistical and legal) that require negotiation.

Environmentalists have enthusiastically adopted CMC but also had to deal with its limitations. They have had to resolve the tensions of using environmentally damaging technology, and be cautious of on-line surveillance. Many have secured access to CMC and despite nuclei of control clustering around its use, have attempted to employ CMC to strengthen their non-hierarchical forms of organisation and resist the pressure to formalise. Environmentalists have also grasped the opportunities of the technology in aiding participant mobilisation and co-ordination, distributing their alternative media, developing new on-line tactics of protest and effectively subverting (or mutating) the technology from within. The ways in which environmental activists overcame the barriers and utilised these opportunities (in different ways by different groups) illustrates the complex ways in which cyberspace is used as a site (and form) of resistance. It also illustrates how interaction between the off-line and the virtual can produce practical outcomes for environmental activism.

The forms of British environmental politics have changed in the 1990s (Rootes, 1992; Scott and Street, 2001). The emergence of a 'new politics' or a 'new political culture' (Clarke and Hoffman-Martinot, 1998), has been marked by new methods of political communication and action which employ cultural symbols and the mass media to convey their message. Although the 'newness' of this cultural turn in relation to social movements remains

debatable there have been emerging radical tendencies within environmentalism. The use of direct action tactics, emphasis upon performance, and activists' use of cutting edge technology are not particularly new in themselves, all have been inherited from past or parallel movements (McKay, 1998; Doherty, 1999a). Also the use of cultural modes of action do not necessarily lead to new forms of politics (Scott and Street, 2001). However, it is the combination of these factors that point to a new direction in environmental politics. Environmentalists have surpassed the criticism of being 'single issue' to exemplify the links between many different issues and widened this to a general critique of the capitalist system and corporate globalisation. This reflects Melucci's (1994) assertion of a shift towards social movements most concerned with challenging the dominant logic of society. In addition, many participants of the current movement refuse to be co-opted into formal organisations, or become government policy advisers, and instead focus on remaining non-integrated and using non-linear forms of organisation.

These and other characteristics of contemporary environmental activism occurred prior to influence of CMC, but the use of CMC has made a significant contribution to the ability of activists to sustain these forms. As documented in this book, CMC use has altered relationships between activists and mainstream media, between activists and their adversaries, and between like-minded activists. CMC has facilitated international networking at a grassroots level (as opposed to the existing plethora of co-ordinating international NGOs) helping to create a more interconnected movement and forging new global solidarities. New tactics are also being developed through CMC that may alter the use of existing techniques, and CMC posits new levels of control into the hands of activists. CMC also provides the possibility of a virtual public sphere, a global commons which environmentalists could use to voice their opinions and build allegiances (Kellner, 1998; Walch, 1999).

The use of CMC is not without its problems, not least the inequality of access, organisational logistics and use by adversaries. Cyberspace is likely to be as infused with discrimination, inequality and politics as off-line space. However, its use has opened up opportunities, a temporary space of resistance, which has enabled environmental movements to move in a new direction typified by global grassroots solidarities, multi-issue campaigns and anti-hierarchical forms of organising. CMC alone has not triggered a new form of environmental politics, but has been a significant contributing factor to the changes observed within the British environmental movement.

As such, there are six key consequences of CMC use for environmental politics, interviewees were: modifying, not rejecting, the use of high technology; able to extend the control they had; capable of decreasing environmentalists' containability by their opponents; strengthening the cohesion of the movement; better able to swarm opponents; and operate at an increased speed. Different groups were able to benefit from these to differing extents and groups played different roles in causing/or exemplifying these opportunities.

#### *Modifying, not rejecting, technology*

The ways in which interviewees dealt with the paradox of using computers to advance their cause illustrated that environmentalists are pragmatic towards technology (and not as they have often been portrayed). By compromising they are able to engage with the populus and campaign for change rather than segregate themselves into isolated communities. Environmentalists' use of modern technology helps challenge the stereotype of the anti-technology, anti-progress protester, making them more appealing to the populus. This attitude also reflects the desire to trigger change off-line within society, not just engage in on-line activities.

### *Extending control*

Interviewees were able to foster control over the use of CMC which provided an additional (and extensive) channel through which they could proliferate their message(s). They have had such control over traditional avenues of alternative media, but CMC was cheaper, quicker and enabled distribution to an international audience. Furthermore, CMC reinforced some environmentalists' aims of organising using non-hierarchical structures, enabling less hierarchical forms of organisation to exist more effectively than previously and reducing the pressure towards professionalisation that many groups faced. Moreover, grassroot groups were able to maintain more control over their operations, and not rely upon large NGOs for resources, or mainstream media for coverage.

### *Decreasing containability*

The containability of environmental protest (and politics) by its opponents has been reduced by the use of CMC. Not only did CMC give interviewees ready access to a national and international audience, but traditional attempts at surveillance have (to some extent) been subverted by the use of CMC. Moreover, interviewees were able to maintain their non-hierarchical forms of organising, sustaining a nomadic form of power and centre-less organisation which is hard to target by the centred state authorities and hierarchical multinational organisations. This is especially poignant in that traditionally the state and multinationals had been able to yield power over some environmental NGO's by threatening to seize or freeze their assets. In contrast, it is a lot harder to locate key individuals of non-hierarchical networks, or locate any assets.

### *Strengthening cohesion*

CMC has facilitated the mobilisation of participation for virtual actions and served to strengthen the existing movement networks for physical action. Furthermore, it is possible to mobilise those who are already within movement networks using CMC without face-to-face contact. CMC is simply a quicker, cheaper and more global method of utilising these networks. While CMC holds the potential to provide a new method of recruitment, mobilisation remains reliant upon integration into existing networks. At present CMC is resigned to act as a strengthener (in terms of reducing the importance of the elements of time and space in communication) of the existing networks. In these ways, the technology has been used to expedite the interlinking of the British environmental movement.

### *Swarming opponents*

CMC can be used to develop new tactics of protest and thus add to, or change, the repertoire of action. Despite many of these uses being particularly innovative, these were extensions to the existing repertoire, rather than new additions. However, the use of on-line tactics has added to activists' ability to swarm a target using a variety of techniques simultaneously - physical tactics and electronic attacks through computer systems.

### *Rapid interaction*

The speed at which CMC can operate has enabled environmentalists to communicate more quickly, more often and for the barrier of distance to be reduced. The increased velocity at which activists were able to communicate contributed to the changes outlined above and facilitated the dynamism of the movement. As processes of interaction were quickened, the process of mobilisation was also speeded up, enabling some actions to become more spontaneous, and consequently less confinable by the authorities.

## **Challenges for internet activists**

Given these six alterations in the practice of environmental politics, and the variety of constraints faced by activists in their use of CMC, the use of the technology implies four further challenges for environmentalists. First, that the use of CMC, is a site of political and cultural struggle. Second, that cyberspace may only be a temporary space of resistance. Third, that environmentalists have maintained the importance of the off-line and local. Finally, that the use of CMC has disproportionately benefited small, grassroot groups who often suffer from a lack of resources.

### *A site of struggle*

Cyberspace, and the use of CMC, is a contested terrain for environmentalists. Their experiences moves the discussion about cyberspace on from the utopic/dystopic debate to illustrate the practical ways in which environmentalists sought to create a cyberspace which fitted their needs and aspirations – rather than the technology being either good or bad. Their struggle is a reflection of the wider discord surrounding the use of new technologies and represents a microcosm of the broader debates about the future of technopolitics and society.

Furthermore, activists at times used the technology in ways which appeared to contradict with their principles. Despite broad scepticism towards technology, most interviewees sought to justify their use of CMC on the condition they would reject it once they had achieved their goals. This attitude contradicts with the forms of prefigurative politics discussed in chapter 3, whereby activists seek to act in ways they would if they were already living their ideal. Thus cyberspace is a contested terrain not only between activists and their adversaries, but CMC use raises areas of contention for environmentalists between their principles and practice.

### *Temporary space of resistance*

Due to the struggle over cyberspace, it may only provide a temporary space of resistance. Environmentalists may be able to secure a corner of cyberspace free from corporatisation and state regulation, but environmentalists long term use of CMC is by no means assured. This is due in large part to their own success in using the technology. The increasingly high profile of environmental internet activism in the mainstream media has focused attention upon the use of the technology for subversive purposes, and thus given their opponents cause to constrict the ways activists are able to utilise CMC in the future. It may be that CMC use will level off as its usefulness, and freedom from corporate control, diminish, or that there will be ‘dramatic fluctuations in tactical advantage and in the degree of resistant intensity’ (CAE, in Little, 1999, p.196). As yet it is unclear how environmentalists will respond to such threats, though the use of the technology is unlikely to replace the importance of existing forms and processes of action.

### *Off-line and mortal, earth-bound life*

To environmentalists it may not necessarily matter that their use of CMC may be temporary. This is because what is most important to them is what is off-line: ‘This lucid dream of virtual freedom is at odds with the strongest current in our emerging public culture: a sense of the bonds which tie us to nature and each other’ (Gray, 1995, p.17). For each of the uses of CMC, environmentalists asserted the importance of locality. For on-line actions and alternative media the importance of basing actions in the physical world remained.

Environmentalists are not embracing the ideals of an alternative social (virtual) reality – instead they seek to locate CMC within their existing world. Their primary concern is for the protection of the earth's natural environment. They have little wish to become 'dissociated from the complexity and gravity of the real world' (Robins, 1996, p.12). While some have used cyberspace to create a new 'social commons' (c.f. Rheingold, 1994), to replace the lost public spheres of the physical world, such idealisation of on-line communities actually involves a denial of difference, and the desire to create order, security and sameness. In contrast, environmentalists are less interested in a virtual space that 'is being created as a domain of order, refuge and withdrawal' (Robins, 1996, p.24), and more interested in using CMC to create a better off-line world.

This emphasis upon the local reiterates Washbourne's (1999a) assertion that CMC was being used as part of translocalism – the process whereby social networks can operate between and within specific localities to enable collective action, without the requirement for a central organisation or hierarchy. Thus environmentalists were using the global medium of CMC to express their desire for each individual internationally to protect their local space. Environmentalists' use of CMC can be viewed as part of a strategy to relocate the debate from the forces of globalism to the importance of localism and the environment. It is at the local level where the importance and significance of the environment to everyday activities and survival is clearest: 'at the end of the day, the world worth fighting for is one in which people control their own lives and communities, and live in a vibrant, sharing, creative, co-operative face-to-face every-day culture. The role of modern technology in that is open to question' (Dave Morris, McSpotlight). Despite this emphasis on the local context, however, as Castells (2001) identifies, CMC has enabled social movements to 'think local and act global' (p.143). Thus they are able to generate 'the legitimacy and support provided by their reliance on local groups, yet they cannot remain local or they lose their capacity to act upon the real sources of power in our world' (p.143).

#### *'Levelling the playing field': Strength without resources*

This globalisation of social movement concerns and actions has helped reduce the slope of the playing field compared to their corporate adversaries. It has also, however, altered the power relations between groups within the British environmental movement. Traditionally, large centralised NGOs have wielded significant influence within the movement because they had the resources to do so, and resources reflected what actions environmentalists could take. With the use of CMC, however, the need for extensive resources and a centralised organisational structure to co-ordinate actions is reduced. It is not the best resourced groups which are benefiting the most from CMC use, but the most adaptable and inventive. Although resources are required to use CMC, it is adaptability, enthusiasm and innovation which are also crucial - and these are bred through non-hierarchical networks. The use of CMC has disproportionately benefited small, grassroots groups who often suffer from a lack of resources, making the components within the environmental movement more equal to each other.

CMC use for protest organisation also disproportionately facilitates the work of political activists linked only into fluid networks using cellular structures, not hierarchy, to organise, rather than the larger more formally structured political pressure groups. The more informal, non-hierarchical, flexible and often radical, are best able to benefit from CMC's ability to aid organisation in a decentralised manner. CMC enables groups to co-ordinate campaigns without the need for a central office, newsletters, or the physical presence of activists, as such groups are unrestricted by bureaucratic organisational procedures. In contrast, the larger non-governmental organisations are less able to adapt to the new



technology because they appear to require a control over, and centralisation of, operations and decision making. More formal hierarchical organisations, such as FoE, are slower to adapt. Although FoE was one of the first environmental groups to use CMC, and developed several innovative uses – some of its staff felt that they had failed to continue this trend.

Such activists are able to benefit from the anonymity of CMC, its speed, low cost, and potential for innovation. The consequence is the rise of less structured environmental groups with significant protest-organising power and an overall a strengthening of the British environmental movement. This is not a result of CMC alone, but the continuation of a process which started in the early 1990's with the rise of small non-violent direct action groups. CMC has made the process more sustainable and contributed to the rise of the individual action in protest. Also, like the internet, if any group (node) is removed, or suppressed then a replacement group or individual can emerge using CMC, or the links to other nodes rejoin. Thus CMC contributes to the building of a robust network of small environmental groups and the rising importance, and power of, grassroot groups.

### **Social movements and technology**

Despite the analysis of this book focusing explicitly upon British environmentalists' use of CMC, there is much that can be extrapolated to the consideration of on-line political activism more broadly. If, as documented here, CMC has enabled environmentalists to sustain existing trends for longer than might have otherwise been possible, then use of the technology is liable to do the same for other political movements and their tendencies.

Principally, examination of environmentalists' CMC use has reinforced social movement theorists' (such as Melucci and Touraine) assertion that in the network age movements are primarily concerned with contesting cultural values. A recurring theme throughout the book has been the emphasis upon the *need* for communication. Other dilemmas about the suitability of CMC for environmentalists – such as concerns about its environmental impact, security (due to surveillance fears), or its ability to be used as in an inclusive participatory manner – were overridden by the mantra that as activists they had to be able to communicate their ideas to a wide audience. Communication was perceived as a crucial conduit via which to contest the dominant codes of society that structure our understandings of meaning.

More specifically, analysis of the types of tactics adopted using CMC confirms that repertoires of action are relatively stable and do not alter quickly. As Meikle (2002) has also identified, most on-line tactics are remarkably familiar to their off-line counterparts. Furthermore, this familiarity was deemed necessary to the tactics' success. Hence the term 'virtual sit-in' being used to refer to electronic civil disobedience in the hope that activists would more clearly identify with its form and aims (as being similar to the traditional sit-in in an office or on the street) and thus adopt it. Similarly, much early culture jamming on-line was of a similar nature to that which had been done to off-line adverts – the fundamental meaning subtly altered. In this context, the use of CMC may have its most impact on the increased dynamism of CMC use. With increasing interaction between different activists worldwide who are able to exchange skills and work collaboratively, the cycles of protest, which influence repertoires of action, might begin to quicken.

In relation to forms of participant mobilisation, analysis of CMC use reaffirms that inclusion into movement networks is a vital component of participation. Thus, due to the 'thinner' forms of interaction possible on-line as compared to face-to-face, mobilisation remains a process rooted in a gradual socialisation of an individual into activist networks.

Rather, CMC is most useful in connecting those already within some sector of a social movement to each other.

Social movement theorists have studied the forms of social movement organisations and their inner functions extensively. Often non-linear non-hierarchical forms, which can typify the early stages of movements' evolution, are deemed temporary as the need to formalise to coordinate resources or maintain momentum becomes necessary. The ability to use CMC to help sustain fluid forms of organisation, however, might alter our understandings of the way in which social movements organisations develop. As evident as a considerable component of the numerous so-called anti-corporate protests, such loose organisational forms can have significant organising power (Starr, 2000). The increased proliferation of this form of organising could radically alter the forms social movement take. Furthermore, environmentalists' use of CMC, as a network of durable interconnectivity, further confirms the rhizomic image of cyberspace as a model through which the societal relationships on-line can be ascribed.

Environmentalists' emphasis upon the importance of local context, local identity creation and local action also adds further credence to social movement theorists' attempts to locate the meaning of collective action at the personal level. Melucci (2000) suggests that 'individuals' control of action is a necessary condition for the formation of collective mobilization and change' (p.92). In other words, collective action has for many become primarily about fulfilling personal needs, with enacting social change a secondary tenet. This individuation of action corresponds with an increased emphasis upon the local; ones immediate surroundings, personal lifestyle, community networks and aspects that are perceived within an individual's control of influence (unlike the many global decisions made by faceless institutions). This process further correlates with Willson's (2002) assertion that CMC 'potentially provide the settings for the increased individuation and compartmentalisation of the individual' (p.233). Thus, CMC use once more serves to enforce a tendency within contemporary social movements, that is the increasing focus upon the individuation and localisation of action. Analysis of such CMC use could further aid our understandings of these processes of individuation. Such analysis could further be used to explore the various influences upon the construction of collective identities. This has been touched upon here through examinations of CMC use in network cohesion, mobilisation and individuation, but require further exploration.

On a slightly different tact, environmentalists' use of CMC has also contributed to a smudging of the boundaries between the private and public spheres of life as CMC engages in both. Moreover, the likelihood of a new public sphere being developed through the use of CMC seems limited given that cyberspace is such a contested terrain (Kellner, 1998; Beslow, 1997). Consequently, in contrast to Castells' (2001) optimism, the possibility that an improved (and global) civil society might emerge from the use of CMC seems somewhat diminished. Rather, the potential lies, not in creating an improved public sphere, but in the use of CMC to aid the actions of those most marginalised within existing civil society – including environmentalists.

It can be difficult, however, to critique social movement perspectives based on analysis of CMC use alone. This is because the technology has rarely been central to a groups operation and tends to illuminate the 'how' rather than the 'why' of social movement operations. A shortfall by social movement perspectives has been the lack of detailed attention to the implications of CMC use for activism. Virtual communities literature offers informative examples of virtual interaction leading to personal investment in networks, but little of this work has been explored in relation to the potential within social movements more

broadly. Furthermore, use of CMC by environmentalists has contributed to the globalisation of the movement as evident in the increasing numbers of anti-corporate globalisation protests. The corresponding diffuse aims, tactic and targets of activists and the problems of generating collective identities in such large scale interaction and amongst contentious participants are only just beginning to permeate social movement literature. Traditionally it had been assumed that protest would operate at the national level. With increased borderless activism new understandings need to be explored.

In relation to theories of technology, this research has proved that the utopic/ dystopic distinction in analysing technological change is clearly inappropriate. Environmentalists' use of CMC illustrates that the debate is more complex than this division and that CMC will aid different people and groups in different ways. Furthermore, one group of individuals could simultaneously benefit from use of a technology and incur problems from its use. Thus 'the net provides new spaces for new political discussions about democracy, revolution and self-determination but it does not provide solutions to the differences that exist: it is merely a means to accelerate the search for such solutions' (Cleaver, 1995, p.6).

This critique of utopic/ dystopic debates further reinforces the theoretical need to examine the interactions between on-line and off-line processes and the social processes through which technology is constructed. It is in the interplay between on-line existence and off-line consequences that the potential for societal change occurs. Furthermore, as technologies become incorporated into mainstream society they can become less useful to those who wish to use them innovatively to stimulate change. This is because the 'cracks that appear in the mediascape' (Mekile, 2002, p.120) that activists have previously maximised to their advantage become blocked by government or corporate control. Despite this environmentalists have continued the vision of the Situationists and sought to subvert the use of the technology where possible. This illustrates activists propensity to use technology in whatever innovative ways are open to them.

### **Where to now?**

Environmental activists' use of CMC has highlighted three areas for potential change – the problems of inclusion in CMC use, the use of hierarchical methods of organisation, and the potential for further tactical use of new technologies. While constraints to CMC access may eventually be negotiated, this lack of inclusion reflects a broader area of contention within environmental movements. The balance between practicing prefigurative politics (thus acting according to principles and ideals) and the need to act with efficiency and speed, is amplified by the use of CMC. While many groups advocate the value of participatory democracy, their ability to be inclusive is tempered by the need to campaign effectively. While in the short run focusing on campaign needs is productive, in the long run a lack of attention to inclusivity will result in a narrow homogenous movement. The challenge remains for activists to resolve such a tension or, more likely, find a suitable balance between ideals and efficiency.

Related to the problematic of access and participation, but also to the problems of resolving tensions around use of the technology, is the increased use of open source software by activists. This is the practise of enabling source code to be freely shared, copied and enhanced by a variety of enthusiasts. Not only does this reduce reliance upon corporate material, but also it instils an ethos of collaboration and sharing into CMC use. Further developments in designing easier to use open source systems will benefit environmentalists and are an exciting potential for CMC use in the future.

The greatest potential for change using CMC was for those groups who organised using non-hierarchical methods. It was these loosely organised and flexible groups that facilitated the necessary experimentation with the technology, and which subsequently enabled activists to use it in innovative ways. CMC is also facilitating the decentralisation of the environmental movement and the rise of the grassroots. All these factors highlight a need for formal, bureaucratic environmental groups to reassess their organisational structure and perhaps reform using more non-hierarchical and flexible methods of organisation. This is not to discount the important role that the larger organisations play in being able to coordinate large-scale public information campaigns, parliamentary lobbying or legislative activity. Rather, a greater awareness of opportunities offered by flexibility would enable them to adapt to the changing social structure and perhaps increase their potential for mobilisation.

In terms of participation perhaps only once CMC use has become further integrated into individuals daily lives will on-line interaction be able to replace the current importance of face to face interaction for initial inclusion into social movement networks. Thus, in the future it may be possible for whole new networks to be generated on-line that could trigger physical direct action off-line. However, as yet this appears a remote possibility.

Simultaneously, there is greater awareness that innovations in the use of CMC need to be effectively combined with the continuing use of existing media, such as print, telephone and face-to-face engagement, to have greatest effect and benefit. While CMC is unlikely ever to replace these mediums, it is integration into existing methods that provides greatest promise. In combination it has the potential to facilitate international collaboration and new virtual tactics, while traditional media can continue to encourage participation and stimulate local protest.

For state and corporate adversaries, environmentalists' use of CMC has highlighted two key challenges – that they increasingly face a disperse and global resistance, and that in order to combat these they will have to employ stricter security measures and legislation, or as Arquilla and Ronfeldt (1998) suggest, adopting network structures in order to target oppositional networks. State and corporate adversaries are increasingly unable to control the way in which these groups communicate and co-ordinate. Furthermore, state and corporate entities face a diffuse (and sometimes global) threat from a source they cannot always identify, especially when activists employ anonymity via CMC. This inability to clearly identify the source of the threat facing them means that environmental groups have become harder to target, prevent or assimilate. Moreover, the use of CMC provides activists with an additional tool with which to swarm their opponents – further complicating any ability of corporate or state targets to ignore or resist attacks. This threat is often the result of the global networking of assorted grassroot groups. The rising prominence of globally co-ordinated protests (such as those in Seattle, Gothenburg, Quebec, Prague and Genoa) that have involved activists travelling from diverse locations has illustrated the usefulness of CMC to international coordination<sup>80</sup>. The visibility of such protests, coupled with the terrorist activity in the United States in September 2001 and Bali in October 2002, however, has triggered governments to increased their legislation and surveillance of society and reduce some freedoms once assumed of CMC. The full ramifications of this 'anti-terror' legislation have yet to be understood.

While there remains a novelty (and hype) about the use of CMC which can distort its worth, its use by environmentalists has had an impact upon the forms and processes of the interviewees and their affiliated groups. British environmental activists are a diverse cohort composed of individuals and groups with diverging aims, ideologies and forms of organisation. These differences are exposed in their contrasting attitudes to, and use of CMC.

They are united, however, in their struggle to use CMC to their advantage and to continue their protest, activism, and resistance (and creation of positive alternatives) through, and in, cyberspace. The environmental movement is particularly innovative, creative and skilful and this has been extended to its use of CMC.

CMC use will continue to evolve and be utilised by environmentalists, modifying and being modified by social processes. The new interactions triggered by CMC have significantly altered each of the environmental groups considered here, and are likely to aid new collaborations and the development of new forms of environmental protest, particularly internationally. Although problems and restrictions remain in its utilisation, environmentalists continue to weave a green web.

## References

- Alam, S (1996). 'On-line lifeline'. The New Internationalist. December.
- Allen, T (1996). West Yorkshire Pilot Project: Summary Report. Leeds, Friends of the Earth.
- Amusing Pseudonym (1999). 'Keep it up, don't let violence divide us', Reflections on J18
- Angell, I (1992). 'Winners and Losers in the Information Age.' Society vol.34, no.1, pp.81-85.
- Annis, S (1992). 'Evolving Connectedness Among Environmental Groups and Grassroots Organisations in Protected Areas of Central America.' World Development vol.20, no.4, pp.587-595.
- Anon (1997a). 'A New View' Clean Slate, no.27, autumn, p.4
- Anon (1997b). 'AQUA: No Teign-Bovey Diversion!' [www.geocities.com/RainForest/3081/newton.html](http://www.geocities.com/RainForest/3081/newton.html)
- Anon (1997c). 'Intelligence', The Ozimandias Collective's Direct Action and Sabotage Handbook, [www.cafeunderground.com/Cafesite/Rooms/Ozymandia/V11sc05.htm](http://www.cafeunderground.com/Cafesite/Rooms/Ozymandia/V11sc05.htm).
- Anon (1997d). 'Judge for Yourself' Undercurrents 6 video.
- Anon (1997e). 'PPS News' [www.geocities.com/RainForest/3081/newspp3.html](http://www.geocities.com/RainForest/3081/newspp3.html).
- Anon (1997f). 'The Empire Strikes Back' Do or Die - Voices from Earth First!, no.6, pp.136-142.
- Anon (1997g). 'The Evolution of Reclaim the Streets' Do Or Die no.6.
- Anon (1997h). 'The Luddites' War on Industry; A Story of machine smashing and spies' Do or Die - Voices from Earth First!, no.6, p.65-71.
- Anon (1997i). 'Too Close Circuit for Comfort' Squall, [www.squall.co.uk](http://www.squall.co.uk)
- Anon (1997j). 'We have the inspiration! Help us provide the information through the latest C.A.T. project - an autonomous information complex' Clean Slate, no.26, autumn, p.8.
- Anon (1997k). McSpotlight Frequently Asked Questions, Version 3, June.
- Anon (1997l). 'Cybernora: Contractors' War on Eco-hackers. Do or Die - Voices from Earth First!, pp.33.
- Anon (1998a). '10 easy steps towards greener computing' Re:design [www.redeign.org/reports/computing/10steps.htm](http://www.redeign.org/reports/computing/10steps.htm)
- Anon (1998b). 'Ecology activists blamed for damage to genetic test crops', The Times, London, p.11
- Anon (1998c). 'Friends of Canbury Gardens', [www.geocities.com/RainForest/3081/focg.html](http://www.geocities.com/RainForest/3081/focg.html).
- Anon (1998d). '<http://www.cat.org.uk>' Clean Slate, no.27, winter, p.5.
- Anon (1998e). 'Major award for multimedia project' Clean Slate, no.28, spring, p.4.
- Anon (1998f). 'MO Log and News', [www.geocities.com/RainForest/3081/molog.html](http://www.geocities.com/RainForest/3081/molog.html)
- Anon (1998g). 'SchNEWS birthday boys and girls pause for breath', SchNEWS, [www.schnews.org.uk/justice/year1998.htm](http://www.schnews.org.uk/justice/year1998.htm).
- Anon (1998h). 'The Mobile Office', [www.geocities.com/RainForest/3081/mo.html](http://www.geocities.com/RainForest/3081/mo.html)
- Anon (1998i). 'Website Success' Clean Slate, no.30, autumn, p.4.
- Anon (1998j). 'Fight state censorship of the radical press' London Gandalf Support Campaign, London.
- Anon (1998k). 'Victory at Teigngrace' Do or Die- Voices from Earth First!, no.7.
- Anon (1998l). 'No escape from patriarchy: Male dominance on site' Do or Die - Voices from Earth First!, no.7, p.10-13.
- Anon (1999a). 'Awards galore!' Clean Slate, no.32, Spring, p.5

- Anon (1999b). 'Fifth Birthday Shocker ... and the next five years? ... Wake up! Wake up! It's yer typical SchNEWS week', SchNEWS, [www.schnews.org.uk/justice/year1999.htm](http://www.schnews.org.uk/justice/year1999.htm)
- Anon (1999c). 'Forget scud missiles, cyberwar hits harder' Internet magazine, February, p.10.
- Anon (1999d). 'Friday June 18<sup>th</sup> 1999: Confronting Capital and Smashing the State!' Do or Die – Voices from the ecological resistance, pp.1-12.
- Anon (1999g). 'Sabbing Shell; Office Occupation A-Go-Go' Do or Die-Voices from the ecological resistance, no.8, pp.125-129.
- Anon (1999k). Net closes in on eight City riot suspects. The Times, 30<sup>th</sup> October.
- Anon (1999l). 'Hacktivism' Do or Die – Voices from the ecological resistance, no.8, p.322.
- Anon (1999n). Fun with Computers on office occupations. Earth First! Action Update. April.
- Anon (2000a). 'Black Block Participant Interview', Active Transformation, USA, January.
- Anon (2000c). 'Home Office attempts to censor satirical website! RIP it up' SchNEWS, 31st March.
- Anon (2000d). 'IoD voices its concern over e-mail interception plan' 9th June, [www.iod.co.uk/rip.html](http://www.iod.co.uk/rip.html)
- Anon (2000e). 'Kick this legislation out: It should be RIP for the Big Brother bill' The Guardian, editorial, 12th June, p.19.
- Anon (2000f). Legitimising surveillance: The Regulation of Investigatory Powers Bill, Statewatch, <http://www.statewatch.org/news>.
- Anon (2000g). 'The Empire Bytes Back' SchNEWS, 4th August.
- Anon (2000h). 'Radical internet users condemn tapping plans' nonviolent action, issue 9, March, p.5.
- Anon (2000i). 'Wealthy man planned City demo', BBC News On-line, 11<sup>th</sup> April, [news.bbc.co.uk](http://news.bbc.co.uk).
- Anzovin, S (1994). The Green PC: Practical Choices that Make a Difference. New York, McGraw-Hill.
- Arquilla, J and Ronfeldt, D (2000). Swarming and the Future of Conflict. RAND National Defense Research Institute, Santa Monica, CA.
- Arquilla, J. and Ronfeldt, D (1998). 'Cyberwar is coming!' p.24-50 in G.Stocker and C.Schoph, InfoWar, Springer Wien, New York.
- Atton, C (1996). 'Anarchy on the Internet: Obstacles and Opportunities for Alternative Electronic Publishing' Anarchist Studies, 4, pp.115-132.
- Atton, C (2000). 'Are There Alternative Media after CMC?' M/C Reviews, 12<sup>th</sup> April, [www.uq.edu.au/mc/reviews/features/politics/altmedia.html](http://www.uq.edu.au/mc/reviews/features/politics/altmedia.html).
- Baggott, R (1995). Pressure Groups today. Manchester, Manchester University Press.
- Bagguley, P (1992). 'Social Change, the Middle Class and the Emergence of 'New Social Movements': A critical analysis.' Sociological Review vol.40, pp.26-48.
- Ball, G (1997). 'Framed: smart cameras know thieves' faces', The Independent on Sunday, 13<sup>th</sup> July, p.5.
- Barbrook, R (1995). Electronic Democracy, [ma.hrc.wmin.ac.uk/ma.theory.4.5.db](http://ma.hrc.wmin.ac.uk/ma.theory.4.5.db). 4 pages.
- Barnett, A (2000). 'Police to track mobile phone users', The Observer, 30<sup>th</sup> July.
- Batchelor, W (1995). Financial information over the internet: legal issues, IQPC Conference, London, 20<sup>th</sup> September.
- Bate, R (1983). 'Friends of the Earth' pp.124-137 in Lowe and Goyder, Environmental Groups in Politics. London, George Allen and Unwin.
- Bauerlein, M (1999). 'The Luddites are back; To resist or not to resist, that is the question', The Daily Bleed Calendar, [www.eskimo.com/~recall/bleed/sinners/LudditesBack.htm](http://www.eskimo.com/~recall/bleed/sinners/LudditesBack.htm)
- Beder, S (1997). Global Spin: The corporate assault on environmentalism. Green Books, Devon. pp.288.

- Bennetto, J (1998). 'Police unit to target green protesters' The Independent, 7<sup>th</sup> November, p.4.
- Bijker, W, E and J. Law (1992). General Introduction. Shaping Technology / Building Society: Studies in Sociotechnical Change. W. Bijker, E and J. Law. London, The MIT Press, pp.1-16.
- Bimber, B. (1998) 'The Internet and political transformation: populism, community, and accelerated pluralism' Polity, vol.31, no.1, pp.133-49.
- Bimber, B. (2001) 'Information and political engagement in America: The search for effects of information technology at the individual level' Political Research Quarterly, vol.54, no.1, pp.53-67.
- Bingham, N., G. Valentine, and Holloway (2001). 'Life Around the Screen: Re-framing Young People's Use of the Internet.' In N.Watson and S.Cunningham-Burley, Reframing the Body. Palgrave Macmillan, London.
- Birkerts, S (1995). The Gutenberg Elegies: The Fate of Reading in an Electronic Age, Faber and Faber, London.
- Birkett, P (1997). 'Party time for pagan army' Weekend Telegraph, 27<sup>th</sup> December, p.10.
- Blair, T, L (1971). Friends of the Earth. The Environmental Handbook: Action guide for the UK. J. Barr. London, Ballantine / Friends of the Earth, pp.325-326.
- Blue (1997). 'Swampy, eat your heart out' The Big Issue, no.239, June 30 – July 6, p.20-21.
- Boal, I, A (1995). A Flow of Monsters: Luddism and Virtual Technologies. Resisting the Virtual Life: The Culture and Politics of Information. J. Brook, and I. Boal. San Francisco, City Lights, pp.3-16.
- Boncheck, M, S (1995). Grassroots in Cyberspace: Using Computer Networks to Facilitate Political Participation. Presented at the 53<sup>rd</sup> Annual Meeting of the Midwest Political Science Association, Chicago, IL on April 6<sup>th</sup>, available at <http://www.ai.mit.edu/people/msb/pubs/grassroots.html>.
- Bonnett, A (1999). 'Situationist strategies and mutant technologies', Angelaki, Journal of theoretical humanities, vol.4, no.2, pp.25-32.
- Bosso, C, J (1991). Adaptation and change in the environmental movement. Interest Group Politics. J. Ciger and B. Loomis. Washington DC, Congressional Quarterly Press, pp.151-176.
- Bowden, C (2000). 'Big Browser is watching the web; Is the Regulation of Investigatory Powers Bill a license for state snooping?' The Observer, 25th June, p.26.
- Bowden, C and Akdeniz, Y (1999). 'Privacy II: Cryptography and Democracy – Dilemmas of Freedom, pp.81-123 in Liberty, Liberating Cyberspace: Civil liberties, Human Rights and the Internet. Pluto Press, London.
- Bowlby, S, R and M. Lowe, S (1992). Environmental and Green Movements. Environmental Issues in the 1990's. A. Mannion, M and S. Bowlby, R. Chichester, John Wiley and Sons, pp.161-174.
- Boyle, G. and P. Harper (Eds.) (1976). Radical Technology. London, Wildwood House.
- Boyle, J (1997). Shamans, Software and Spleens: Law and the Construction of the Information Society. Harvard University Press.
- Brabbs, C (1999). 'Why global brands are under attack' Marketing, 9<sup>th</sup> December, p.15.
- Brass, E. and S. Poklewski Koziell (1997). Gathering Force: DIY Culture - Radical action for those tired of waiting. London, The Big Issue Writers.
- Breslow, H (1997). 'Civil Society, Political Economy, and the Internet', S.Jones, (ed.) Virtual Culture: Identity and Communication in Cybersociety. London, SAGE Publications.
- Brush, M (1996). 'Got a gripe? There are plenty of places to vent on the 'Net', Money Daily, 13-14<sup>th</sup> July.
- Bryne, P (1997). Social Movements in Britain. London, Routledge.



- Buchanan, D, A (1993). 'The organisational politics of technological change' pp.211-222 in D.Medycki-Scott and H.M.Hearnshaw, Human factors in Geographical Information Systems. Belhaven Press, London.
- Budge, I (1996) The new challenge of direct democracy. Polity Press, Cambridge.
- CAE (1996). Electronic Civil Disobedience and Other Unpopular Ideas. New York, Autonomedia.
- CAE (2001). Digital Resistance. New York, Autonomedia.
- Calhoun, C (1998). 'Community Without Propinquity Revisited: Communication Technology And the Transformation of the Urban Public Sphere' Sociological Inquiry 68: pp.373-97.
- Campbell, D (1981). Phonetappers and the security state, Report from New Statesman, Report 2.
- Campbell-Jones, S (1998). The future: how scary is it really ? Earth Matters, Friends of the Earth. 37, p.9.
- Carey, P (1997). 'Defamation, live broadcasts and the Internet.' New Law Journal vol.147, no.6815, pp.1633-1634.
- Castells, M (1996). The Information Age, Volume 1; The Rise of the Network Society, Blackwell: Oxford, pp.556.
- Castells, M (1997a). 'An introduction to the information age.' City, no.7, pp.6-16.
- Castells, M (1997b). The Information Age, Volume 2; The Power of Identity, pp.434.
- Castells, M (2001). The Internet Galaxy: Reflections on the Internet, Business and Society. Oxford University Press, Oxford.
- CAT (1995). The C.A.T. Story: the why, how, when and what of Europe's foremost eco-centre. Machynlleth, Centre for Alternative Technology.
- CAT (1997a). The Power System at C.A.T. – how we manage our renewable electricity. Centre for Alternative Technology, Machynlleth.
- CAT (1997b). The Centre for Alternative Technology Guide Book. Centre for Alternative Technology, Machynlleth.
- CAT (1997c). 'CAT's man-made lake is the reservoir for the Water Balanced Cliff Railway' Postcard of the lake at CAT.
- CAT (1998a). A users's guide to the Centre for Alternative Technology. Centre for Alternative Technology, Machynlleth.
- CAT (1998b). AtEIC Appeal Centre for Alternative Technology, Machynlleth.
- Charlton, R, May, R and Cleobury, T (1995). NGOs in the politics of development: projects as policy, Contemporary Politics, vol.1, no.1, pp.19-42.
- Chartier, D. and J. Deleage (1998). 'The International Environmental NGOs: from the Revolutionary Alternative to the Pragmatism of Reform'. Environmental Politics vol.7, no.3, pp.26-41.
- Chesters, G (2000a). 'Resist to Exist? Radical Environmentalism at the end of the Millennium' ECOS, January, vol.20, no.2, pp.19-25.
- Chesters, G (2000b). 'The New Intemperance: Protest, Imagination and Carnival' ECOS, vol.21, no.1, pp.2-10.
- Chesworth, S and Johnson, A (1997). 'Police Clampdown on RTS' Squall, no.14
- Chin, C and Mittelman, J (1997). 'Conceptualising resistance to globalisation' New Political Economy, vol.2, no.1, pp.74-86.
- Clark, N (1996). Earthing the Ether: The Alternating Currents of Ecology and Cyberculture. Cybersutures: Culture and Politics on the Information Superhighway. Z. Sardar and J. Ravetz. London, Pluto, pp.90-110.
- Clark, T, N and Hoffmann-Martinot, V (1998). The New Political Culture, Boulder, Westview.

- Clarke, C (2000a). 'Big Brother is watching the web; Is the Regulation of Investigatory Powers Bill a license for state snooping?' The Observer, 25th June, p.26.
- Clarke, C (2000b). 'The bill does not outlaw any form of encryption', debate with Caspar Bowden, The Guardian, Online, p.3-4, 30<sup>th</sup> March.
- Cleaver, H (1995). Cyberspace and 'Ungovernability' [www.spunk.org/library/comms/sp001000.txt/](http://www.spunk.org/library/comms/sp001000.txt/)
- Cleaver, H (1997). The Zapatista Effect: The Internet and the Rise of an Alternative Political Fabric. [www.eco.utexas.edu/Homepages/Faculty/Cleaver/zapeffect.html](http://www.eco.utexas.edu/Homepages/Faculty/Cleaver/zapeffect.html). Austin University, Texas, 2nd February 1999: 12.
- Cleaver, H (1999). 'Computer-linked Social Movements and the Global Threat to Capitalism', [www.eco.utexas.edu/faculty/Cleaver/polnet.html](http://www.eco.utexas.edu/faculty/Cleaver/polnet.html). 19 pages.
- Cohen, R and Rai, S, M (eds.) (2000). Global Social Movements. London: The Athlone Press.
- Colin, B (1997). 'The Future of Cyberterrorism'. Crime and Justice International, March, pp.15-18.
- Collin, M and Godfrey, J (1997). Altered State: The Story of Ecstasy Culture and Acid House. Serpent's Tail, London.
- Cramp (1997). 'Wind power in Lyminge Forest' Meridian Tonight, ITV, 18<sup>th</sup> December, 6pm.
- Dahlberg, L (2000). 'Democratic participation through the internet: a brief survey' M/C Reviews, [www.uq.edu.au/mc/reviews/features/politics/participation.html](http://www.uq.edu.au/mc/reviews/features/politics/participation.html).
- Davis, R (1999). The Web of Politics. Oxford University Press, Oxford.
- de Silva, S (2001). 'Free code and the divisions within' in Rogue States, Melbourne, The Media Circus Reader, pp.58-60.
- Deleuze, G and Guattari, F (1987). A Thousand Plateaus: Capitalism and Schizophrenia. The Athlone Press, London.
- Della Porta, D. and M. Diani (1999). Social Movements: An Introduction. Oxford, Blackwell Publishers.
- Denning, D (1997). 'The future of cryptography' pp.175-189 in B.Loader, The Governance of Cyberspace: Politics, Technology and Global Restructuring, Routledge, London.
- Denning, D (1999). 'Activism, Hacktivism, and Cyberterrorism: The Internet as a Tool for Influencing Foreign Policy', [www.nautilus.org/info-policy/workshop/papers/denning.html](http://www.nautilus.org/info-policy/workshop/papers/denning.html).
- Diani, M (1992). 'The concept of social movement' The Sociological Review, vol.40, no.4, p.1-25.
- Diani, M (2001). 'Social Movement Networks Virtual and Real' F.Webster (ed.), Culture and politics in the information age: a new politics?, Routledge, London.
- Dickson, D (1974). Alternative Technology and the Politics of Technical Change. London, Fontana.
- DJNZ (2000). 'Client-side Distributed Denial-of-Service: Valid campaign tactic or terrorist act?' the electrohippies collective, [www.gn.apc.org/pmhp/ehippies/files/op1.htm](http://www.gn.apc.org/pmhp/ehippies/files/op1.htm)
- Dobson, A (1995). Green Political Thought. London, Harper Collins Academic.
- Dobson, A (2000). Green Political Thought. London, Routledge.
- Doherty, B (1996a). 'Paving the way: the rise of direct action against road-building and the changing character of British environmentalism' Working Paper 21, Keele University Politics Department.
- Doherty, B (1997). Direct Action Against Road-Building: Some Implications for the Concept of Protest Repertoires. Political Studies Association Annual Conference, Ireland, Vol.2, pp.147-155
- Doherty, B (1998). 'Opposition to Road Building' Parliamentary Affairs, 51(3), pp.370-383.

- Doherty, B (1999a). 'Manufactured Vulnerability: Eco-Activist Tactics in Britain' Mobilisation
- Doherty, B (1999b). 'Change the world via e-mail' New Statesman, 1<sup>st</sup> November, p.xviii-xix.
- Doherty, B (2002) Ideas and Actions in the Green Movement. Routledge, London.
- Doherty, B and de Geus, M (1996). Democracy and Green Political Thought. London, Routledge, pp.36-56.
- Dordoy, A and Mellor, M (2001). 'Grassroots Environmental Movements: Mobilisation in an Information Age' in F.Webster (ed.), Culture and politics in the information age: a new politics?, Routledge, London.
- Dosi, G (1982). 'Technological paradigms and technological trajectories: A suggested interpretation of the determinants and directions of technical change.' Research Policy 11, pp.147-162.
- Doward, J (2000). 'Father of the web lashes snooping Bill' The Observer, 11th June, p.13.
- Doyle, T (2000). Green Power. The environment movement in Australia. University of South Wales Press Ltd, Australia.
- Doyle, T and Kellow, A (1995). Environmental Politics and Policy Making in Australia. Macmillan, Melbourne.
- Doyle, T. and D. McEachern (1998). Environment and Politics. London, Routledge.
- Drew, J (1995). 'Media activism and radical democracy' in J.Brook and I.Boal, (eds.) Resisting the virtual life: the culture and politics of information, City Light Books.
- Edwards, P., N (1995). From 'Impact' to Social Process: Computers in Society and Culture. Handbook of Science and Technology Studies. S. Jasanoff, G. Markle, E. J. Petersen, C and T. Pinch. Thousand Oaks, California, SAGE Publications, pp.257-285.
- Elliott, C and Campbell, D (1996). 'Police chiefs want anti-terror squad to spy on green activists' The Guardian, 27<sup>th</sup> March.
- Engel, D (1997a). 'Cyberlibel: The New 'Internet Defence'.' International Media Law vol. 15, no.10, pp.73-77.
- Engel, D (1997b). 'Bad news travels fast out in cyberspace', The Times, 19<sup>th</sup> August, p.32.
- Escobar, A (1994). 'Welcome to Cyberia: notes on the anthropology of cyberculture, Current Anthropology, vol.35, pp.211-231.
- Escobar, A (1999). Gender, Place and Networks: A Political Ecology of Cyberculture, in W.Harcourt (ed.) Women@internet; creating new cultures in cyberspace. Zed Books, London.
- Ethical Consumer (1996). 'Product report: Computers and Printers' Ethical Consumer, September/October, no.43, pp.18-26.
- Evans, K (1998). Copse: The cartoon book of tree protesting. Orange Dog Publications, Wiltshire.
- Eyerman, R. and A. Jamison (1991). Social Movements: A Cognitive Approach. Cambridge, Polity Press.
- Feenberg, A (1999). Questioning Technology. Routledge, London.
- Fernback, J and B.Thompson (1995) Virtual Communities: Abort, Retry, Failure? [www.well.com/user/hlr/texts/Vccivil.html](http://www.well.com/user/hlr/texts/Vccivil.html).
- Fischer, C., S (1985). Studying Technology and Social Life. High Technology, Space and Society. M. Castells. London, SAGE Publications, pp.284-300.
- Fogg, A and Zobel, G (1998) 'The hills have ears' Squall, no.16, Summer, p.20-21.
- Ford, R (1998) 'Animal activists face ban as terrorists' The Times, 18<sup>th</sup> December, p.12.
- Frederick, H (1997). Mexican NGO Computer Networking Cross-Border Coalition Building. Democratizing Communication - Comparative Perspectives on Information and Power. M. Bailie and D. Winseck. Cresskill, New Jersey, Hampton Press Inc., pp.255-285.

- Freeman, J. (1970) 'The Tyranny of Structurelessness', Berkeley Journal of Sociology, also available at [http://flag.blackened.net/revolt/hist\\_texts/structurelessness.html](http://flag.blackened.net/revolt/hist_texts/structurelessness.html).
- Friends of the Earth (1990). Greening the machinery of government: A framework for governmental administration in the 1990s and beyond. London, Friends of the Earth Ltd.
- Friends of the Earth (1996). The Green Office Plan. London, Friends of the Earth.
- Friends of the Earth (1997a). Look forward to a better future. London, Friends of the Earth.
- Friends of the Earth (1997b). Campaign Networks. London, Friends of the Earth.
- Friends of the Earth (1998a). Annual Review 1998. London, Friends of the Earth.
- Friends of the Earth (1998b). FOE Campaign Networks: An introduction to what they are and how you can get involved. London, Friends of the Earth.
- Friends of the Earth (1998c). Where on Earth? Briefing Sheet. London, Friends of the Earth.
- Friends of the Earth (1998d) Support Survey, November 1997, London, Friends of the Earth
- Friends of the Earth (1999). Electronic Networks. Change Your World, p.22.
- Friis, C, S (1996). 'Two Starting points on the study of Internet' Paper presented at the Joint Sessions of Workshops of the European Consortium for Political research, in the Workshop: The International relations of the Internet, Oslo, Norway, 29<sup>th</sup> March to 3<sup>rd</sup> April.
- Froehling, O (1997). 'The Cyberspace 'War of Ink and Internet' in Chiapas, Mexico'. The Geographical Review, vol. 87, no.2, pp.291-307.
- Fuller, D (1999). 'Part of the action, or 'going native'? Learning to cope with the 'politics of integration' Area, vol.31, no.3, pp.221-227.
- George, P (1999). 'McSpotlight: Freedom of Speech and the Internet', chapter 14 in Liberating Cyberspace: Civil Liberties, Human Rights and the Internet, edited by Liberty. Pluto Press, London.
- Glave, J (1998). 'Anti-Nuke Cracker Strikes Again', [www.thing.net/~rdm/ecd/Brithacker.html](http://www.thing.net/~rdm/ecd/Brithacker.html), Wired News, 14<sup>th</sup> December.
- Glendinning, C (1990a). When Technology Wounds: The Human Consequences of Progress. New York, William Morrow.
- Glendinning, C. (1990b). 'Notes toward a Neo-Luddite Manifesto.' Utne Reader March – April, pp.50-53.
- Graham, G (1999). The Internet:// a philosophical inquiry. London, Routledge.
- Graham, S and Aurigi, A (1997). 'Virtual Cities, Social Polarization, and the Crisis in Urban Public Space', Journal of Urban Technology, vol.4, no.1, pp.19-52.
- Graham, S and Marvin, S (1996). Telecommunications and the city: electronic spaces, urban places. London, Routledge.
- Grant, W (1989). Pressure Groups, Politics and Democracy in Britain. London, Philip Allan.
- Gray, J (1995). Virtual democracy, The Guardian, 15<sup>th</sup> September, pp.17.
- Greenslade, R (2000) 'RIP bill passed' The Guardian, 31st July.
- Greensword (1997) Lyminge Forest - the facts. Green World, Autumn, no.19, p.8.
- Grint, K. and S. Woolgar (1997). The Machine at Work: Technology, Work and Organization. Cambridge, Polity Press.
- Groombridge, N (1996). The Road to Utopia: Joyriding, Road Rage and Road Protests - Masculinities and Censure. Annual Conference of the British Sociological Association, Reading University.
- Gusfield, J (1981). 'Social movements and social change: Perspectives of linearity and fluidity' in L.Kriesberg (ed.) Research in Social Movements, Conflict and Change, vol.4, Greenwich, JAI Press.
- Hager, N (1996). Secret Power: New Zealand's the in the International Spy Network. Craig Potton Publishing, Nelson, New Zealand.

- Hamelink, C (1995). World Communication: Disempowerment and self-empowerment, Zed Books, London.
- Hamilton, J (2000). 'The Inter-Not?' M/C Reviews, 12<sup>th</sup> April, [www.uq.edu.ac/mc/reviews/features/politics/internet.html](http://www.uq.edu.ac/mc/reviews/features/politics/internet.html)
- Harasim, L., M (1993). Networks: Networks as Social Space. Global Networks; Computers and International Communication. L. Harasim, M. Cambridge, Massachusetts, MIT Press: 15-34.
- Haraway, D, J (1990). Simians, cyborgs, and women – the re-invention of nature. Free Association, London.
- Harding, T (1997). The Video Activist Handbook, Pluto Press, London.
- Harding, T (1998). 'Viva camcordistas! Video activism and the protest movement', Chapter 3 in G.McKay, DiY Culture: Party and Protest in Nineties Britain. Verso, London.
- Harper, P (1995). 'The C.A.T. Story, Crazy Idealists! The why, how, when and what of Europe's foremost eco-centre' Centre for Alternative Technology, Machynlleth.
- Hartley, P. (1999). Interpersonal Communication. London, Routledge.
- Haywood, T (1995). Info-rich - info-poor: access and exchange in the global information society. London, Bowker-Saur.
- Henderson, B (Ed.) (1996). Minutes of the Lead Pencil Club : Pulling the Plug on the Electronic Revolution, Pushcart Press.
- Hill, K, A and J. Hughes, E (1998). Cyberpolitics: Citizen Activism in the age of the Internet. Oxford, Rowmna and Littlefield Publishers.
- Holden, S. and B. Szerszynski (1999). Public Participation, Electronic Democracy and the Environment. Lancaster, Centre for the Study of Environmental Change.
- Holloway, J (1998). 'Undercurrent affairs': radical environmentalism and alternative news.' Environment and Planning A 30, pp.1197-1217.
- Ineson, R (1999). 'Lyminge Forest', section in Digital Planet, Open University, 6<sup>th</sup> March, BBC 2.
- Jackson, R (1995). The Global Eco-Village Network, Eco-Villages and Sustainable Communities: Models for 21st Century Living, pp.61-63, FindHorn Press.
- Jakubal, M (2002) 'Fighting to win: a movement without a past is a movement without a future' Earth First! Journal, Feb-march, p.49.
- Janssens, J (1999). A Corporate Counterstrategy near you; Report on the N5M Panel discussion on Corporate Counter strategies against campaigns, March, report available from author, [j.g.janssens@speed.a2000.nl](mailto:j.g.janssens@speed.a2000.nl)
- Jasper, J, M and Poulson, J, D (1995). 'Recruiting Strangers and Friends: Moral Shocks and Social Networks in Animal Rights and Anti-Nuclear Protests' Social Problems, vol.42, no.4, p.493-512.
- Jasper, J, M and Poulson, J. (1993). 'Fighting back: Vulnerabilities, blunders, and countermobilization by the targets in three animal rights campaigns' Sociological Forum, no.8, pp.639-657.
- Jenkins, D (1995). 'Centre for Alternative Technology: The First Twenty Years' Video, Centre for Alternative Technology, Machynlleth.
- Johnston, H, Larana, E and Gusfield, J, R (1994). Identities, Grievances and New Social Movements, chapter 1, p.3-35 in E.Larana, H.Johnston and J.R.Gusfield, New Social Movements: From Ideology to Identity. Temple University Press, Philadelphia.
- Jones, S (1998). 'Welcome to the World (Wide Web)' Clean Slate, no.28, spring, p.2.
- Jordan, G. and W. Maloney (1997). The protest business ? Mobilizing campaign groups. Manchester, Manchester University Press.

- Jordan, J (1998). 'The art of necessity: the subversive imagination of anti-road protest and Reclaim the Streets', Chapter 5, p.129-151, G.McKay (ed.) DiY Culture; Party and Protest in Nineties Britain, Verso, London.
- Jordan, T (1999a). 'New Space, New Politics: The Electronic Frontier Foundation and the definition of cyberpolitics' pp.80107, in T.Jordan and A.Lent, Storming the Millennium: The New Politics of Change, Lawrence and Wishart, London.
- Jordan, T (1999b). Cyberpower: The Culture and Politics of Cyberspace and the Internet. Routledge, London.
- Jordan, T (2002) Activism! Direct action, hacktivism and the future of society. Reaktion Books, London.
- Jordan, T and Taylor, P (1998). 'A sociology of hackers' The Sociological Review, pp.757-780.
- Juniper, T (1997). Wildplaces. Earth Matters. 36: 12-15.
- Justice? (1995b). SchNEWSreader, issues 0-50, pp.202. Brighton, Justice ?
- Justice? (1996). SchNEWSround, issues 51-100, pp.200. Brighton, Justice ?
- Justice? (1998). SchNEWS annual, issues 101-150. Brighton, Justice ?
- Justice? (1999). SchNEWS Survival Handbook, issues 151-200. Brighton, Justice ?
- Justice? (2000). SchQUALL. Brighton, Justice ?
- Kala (2000). Earth First! Revolutionary or Racist?, distributed with *Earth First! Action Update*, issue 70, August.
- Katz, C (1994). 'Playing the Field: Questions of Fieldwork in Geography.' Professional Geographer vol.46, no.1, pp.67-72.
- Kellner, D (1998). 'Intellectuals, the New Public Spheres, and Techno-Politics.' The Politics of Cyberspace. C. Toulouse and T. Luke, W. London, Routledge, pp.167-186.
- Kellner, D (1999). 'Globalisation from below? Toward a radical democratic technopolitics', Angelaki, vol.4, no.2, pp.101-113.
- Kendall, L (1999). 'Recontextualizing 'Cyberspace': Methodological Considerations for On-line Research' pp.57-75 in S.Jones, Doing Internet Research: Critical Issues and Methods for Examining the Net. London, SAGE Publications.
- Keogh, G (1996). 'Webbing the Barricades' Wired, December.
- Kite, M (2000). 'E-mail snooping will create police state, guru warns' The Times, 7th June.
- Klein, N (2000a). No Logo, Harper Collins, London.
- Klein, N (2000b). 'The Vision Thing' The Nation, 10<sup>th</sup> July.
- Klien, N (2001). 'Welcome to the Net Generation' in A.Roddick, Take It Personally: How Globalization affects you and powerful ways to challenge it. HarperCollins, London.
- Kobayashi, A. (1994). 'Coloring the Field: Gender, 'Race', and the Politics of Fieldwork.' Professional Geographer vol.46, no.1, pp.73-80.
- Kolko, B and Reid, R (1998). 'Dissolution and Fragmentation: Problems in On-line Communities' in Cybersociety 2.0: Revisiting Computer-Mediated Communication and Community, S.Jones (ed.). Sage Publications, Thousand Oaks.
- Kovel, J (1983). Against the State of Nuclear Terror, Pan Books, London.
- Kyrish, S (1994). 'Here comes the revolution – again. Evaluating predictions for the information superhighway', Media Information Australia, vol.74, pp.5-14.
- Lamb, R (1996). Promising the Earth. London, Routledge.
- Lawrence, M (1996). 'McSpotlight: Using the Internet as a tool of social activism' NBC News Report, 17<sup>th</sup> April (sourced from [www.mcspotlight.org/media/television/nbc.html](http://www.mcspotlight.org/media/television/nbc.html))
- Lentin, A (1999). 'Structure, Strategy, Sustainability: What Future for New Social Movement Theory?' Sociological Research Online. Vol.4, no.3, [www.socresonline.org.uk/socresonline/4/3/lentin.html](http://www.socresonline.org.uk/socresonline/4/3/lentin.html).

- Lessig, L (1999a). Code and other laws of cyberspace. Basic Books.
- Lessig, L (1999b). 'The limits in open code: regulatory standards and the future of the net' Berkeley Technology Law Journal, Spring, vol.14, no.2, pp.759-770.
- Levi, M (1996) 'Social and unsocial capital' Politics and Society, 24, pp.45-55.
- Levy, S (2001). Crypto. How the Code Rebels Beat the Government: saving Privacy in the Digital Age. New York, Viking.
- Lewis, M, W (1992). Green Delusions: An Environmentalist Critique of Radical Environmentalism. Durham, Duke University Press.
- Lockard, J (1997). 'Progressive Politics, Electronic Individualism and the Myth of Virtual Community' p.219-232 in D.Porter, Internet Culture, Routledge, London.
- Lodge, A (1999). 'Surveillance Watch' SchNEWS Survival Handbook, Brighton.
- Lovink, G (1998) 'Radical Media Pragmatism Strategies for Techno-Social Movements' p.228-234 in G.Stocker and C.Schopf (eds.) Infowar, Springer Wien, New York.
- Lovink, G (2000) 'Interview with Geert Lovink' M/C Reviews, 3<sup>rd</sup> May, [www.uq.edu.au/mc/reviews/features/politics/lovink.html](http://www.uq.edu.au/mc/reviews/features/politics/lovink.html).
- Lowe, P. and J. Goyder (1983). Environmental Groups in Politics. London, George Allen and Unwin.
- Lowe, R. and W. Shaw (1993). Travellers: Voices of the New Age Nomads. London, Fourth Estate.
- Lubbers, E (1996). 'Back To The Source! an archivist exploring new dimensions of Netactivism.' [www.xs4all.nl/~evel/budastk.htm](http://www.xs4all.nl/~evel/budastk.htm). Paper for Metaforum III Conference, Budapest, November 1996, 5 pages.
- Lubbers, E (1998). 'The Brent Spar Syndrome: Counterstrategies against online activism.' [www.xs4all.nl/~evel/brenteng.htm](http://www.xs4all.nl/~evel/brenteng.htm): 4 pages.
- Lubbers, E (2002b) 'Cyber-surveillance' in E.Lubbers (ed.) Battling Big Business. Greenbooks, Devon.
- Lubbers, E. (2002a) 'Net.activism' in E.Lubbers (ed.) Battling Big Business. Greenbooks, Devon.
- Lyon, D (2001) Surveillance Society: Monitoring Everyday Life. Buckingham, Open University Press.
- Mackay, H (1995). 'Technological reality: cultured technology and technologized culture.' Theorizing Culture: An interdisciplinary critique after postmodernism. B. Adam and S. Allan. London, UCL Press, pp.236-248.
- MacKenzie, D. and J. Wajcman (1985). Introductory Essay. The Social Shaping of Technology. D. MacKenzie and J. Wajcman. Milton Keynes, Open University Press, pp.2-25.
- Mander, J (1994a) 'Tyranny of Technology'. Resurgence, vol.164, pp.21-24
- Mander, J (1994b). 'Return of the Sacred.' Resurgence September /October, no.166, pp.13-17.
- Margolis, M and D.Resnick. (2000) Politics as Usual: The Cyberspace "Revolution". Sage Publications, Thousand Oaks, CA.
- Martinson, J (2000). 'Spider in the web', The Guardian, 3rd May, p.20.
- Marx, L. and M. Roe Smith (1994). 'Introduction.' Does Technology Drive History ? The Dilemma of Technological Determinism. M. Roe Smith and L. Marx. Cambridge, Massachusetts, The MIT Press: ix-xv.
- Mastrangelo Gittler, A (1999) 'Mapping Women's Global Communications and Networking' pp.91-101 in W.Harcourt, (ed.) Women@internet: creating new cultures in cyberspace, Zed Books, London.
- Mattausch, J (1987). 'The Sociology of CND.' in The Sociology of War and Peace. C. Creighton and M. Shaw. London, MacMillan Press, pp.199-217.

- Mattausch, J (1989). A commitment to campaign: A sociological study of CND. Manchester, Manchester University Press.
- Maxey, I (1999). 'Beyond boundaries? Activism, academia, reflexivity and research.' Area vol.31, no.3, pp.199-208.
- Maynard, R (1998). 'Vision 2000.' Change Your World, pp.16-17.
- McAdam, D (1988). Freedom Summer. Oxford University Press, Oxford, pp.333.
- McAdam, D and Paulsen, R (1993) 'Specifying the Relationship between Social Ties and Activism' American Journal of Sociology, 99, pp.640-67.
- McAdam, D and Rucht, D (1993) 'The cross-national diffusion of movement ideas', The Annals of the American Academy of Political and Social Science, no.528, pp.56-74.
- McAdam, D, Tarrow, S, and Tilly, C (2001). Dynamics of Contention. Cambridge University Press, Cambridge.
- McAllister, I (1994). 'Dimensions of Environmentalism: Public Opinion, Political Activism and Party Support in Australia.' Environmental Politics vol.3, no.1, pp.22-42.
- McCarthy, J, D (1996) 'Constraints and Opportunities in Adopting, Adapting and Inventing', in D.McAdam, J.McCarthy and M.N.Zald (eds.) Comparative Perspective on Social Movements. Political Opportunities, Mobilizing Structures, and Cultural Framing. Cambridge University Press, Cambridge, p.141-151.
- McCormick, J (1991). British Politics and the Environment. London, Earthscan Publications.
- McCormick, J (1995). The Global Environmental Movement. Chichester, John Wiley and Sons.
- McCormick, N. and J. Leonard (1996). 'Gender and sexuality in the cyberspace frontier.' Women and Therapy vol.19, no.4, pp.109-119.
- McKay, G (1998) 'DiY Culture: notes towards an intro' p.1-53 in G.McKay (ed.) DiY Culture: Party and Protest in Nineties Britain, Verso, London.
- McRae, S (1997). Flesh Made Word: Sex, text and the virtual body. Internet Culture. D. Porter. London, Routledge, pp.73-86.
- Meikle, G. (2002) Future Active: Media activism and the Internet. Pluto Press, Sydney.
- Melucci, A (1989). Nomads of the present: Social Movements and individuals needs in contemporary society. London, Hutchinson Radius.
- Melucci, A (1994). 'A Strange Kind of Newness: What's 'New' in New Social Movements?' pp.101-129 in E.Larana, H.Johnston and J.R.Gusfield (ed.) New Social Movements: From Ideology to Identity. Temple University Press, Philadelphia.
- Melucci, A (1996). Challenging codes: Collective action in the information age. Cambridge University Press, Cambridge, pp.441.
- Melucci, A (2000). 'Social Movement in Complex Societies', Area Journal, no.15, p.81-99.
- Merchant, L (1992). Radical Ecology: The Search for a Livable World. London, Routledge.
- Middleton, J (1997). 'Liability of Service Providers for Defamation in Cyberspace.' European Business Law Review vol.8, no.4, pp.108-111.
- Mies, M and Shiva, V (1993) Ecofeminism, Zed Books, London.
- Mills, D (1997) 'Making mincemeat of McDonald's' ECOS vol.18, no.2, pp.9-13.
- Mitchell, W, J (1996). City of Bits. The MIT Press, Cambridge.
- Mitra, A and Cohen, E (1999). 'Analyzing the Web; Directions and Challenges' pp.179-202 in S.Jones, Doing Internet Research: Critical Issues and Methods for Examining the Net. London, SAGE Publications.
- Mobbs, P (2000b). 'The Internet, Disintermediation and Campaign Groups' ECOS.
- Mohan, G and Mohan, J (2002). 'Placing social capital' Progress in Human geography, vol.26, no.2, pp.191-210.
- Monsanto (1998a). 'Food Biotechnology is a matter of opinions. Monsanto Believes you should Hear all of them', advertisement in The Observer, 21<sup>st</sup> June.



- Monsanto (1998b). 'This strawberry tastes just like a strawberry' advertisement in The Guardian, 20<sup>th</sup> June.
- Moody, G (2002) Rebel Code: Linux and the open source revolution. Penguin, London.
- Murray, G (1993). Enemies of the State. Simon and Schuster, London
- Myers, D, J (1994) 'Communication Technology and Social Movements: Contributions of Computer Networks to Activism' Social Science Computer Review, vol.12, pp.250-260.
- Newsome, R (1997). If you go down to the woods today ... The Big Issue. November 3-9, pp.10-11.
- Norris, P (2001). Digital Divide: Civic Engagement, Information Poverty, and the Internet Worldwide. Cambridge University Press, Cambridge.
- Norris, P (2002). Democratic Phoenix: Reinventing Political Activism. Cambridge University Press, Cambridge.
- Norton-Taylor, R (1999). 'Straw bill widens terrorism definition' The Guardian, 3<sup>rd</sup> December, p.12.
- Nuthall, K (1997). 'Eco-warriors go soft and opt for the telly', Independent on Sunday, 16<sup>th</sup> November, p.12.
- Nuthall, N (1999). 'ICI heads list of worst polluters.' The Times. London: 7.
- O'Donnell, S (2001) 'Analysing the internet and the public sphere: the case of Womenslink' Javnost, vol.VIII, no.1, p.39-58.
- O'Hara, L (1993). At War With The Truth. Mina, London.
- O'Hara, L (1994). Turning up the Heat: MI5 after the Cold War. Phoenix Press, London.
- O'Lear, S (1997). 'Electronic Communication and Environmental Policy in Russia and Estonia.' The Geographical Review vol.87, no.2, pp.275-290.
- Oliver, P., E and G. Marwell (1992). 'Mobilizing Technologies for Collective Action.' Frontiers in Social Movement Theory. A. Morris, D and C. McClurg Mueller. London, Yale University Press, pp.251-272.
- Opie, A (1992). 'Qualitative Research, Appropriation of the 'Other' and Empowerment.' Feminist Review no.40 (Spring), pp.52-69.
- Paehlke, R. (1988) 'Democracy, bureaucracy and environmentalism', Environmental Ethics, 10.
- Paquin, B (1998). 'E-Guerrillas in the mist'. Ottawa Citizen [www.ottawacitizen.com/hightech/981026/1964496.html](http://www.ottawacitizen.com/hightech/981026/1964496.html). pp.9.
- Parsons, L (1997). 'Digging in' Folkestone Herald, 17<sup>th</sup> April, p.1 and p.3.
- Pearce, F (1991). Green Warriors: The People and the Politics Behind the Environmental Revolution. London, The Bodley Head.
- Penman, D (1999) 'Cops in your computer' Daily Express, 28<sup>th</sup> September.
- Pepper, D (1996) Modern Environmentalism: An introduction. Routledge, London.
- Perry, J and Leigh Vanderklein, E (1996). 'Environmental Problem Solving in an Age of Electronic Communications: Toward an Integrated or Reductionist Model? In J.Lemons, Scientific Uncertainty and Environmental Problem Solving, pp.345-375.
- Pickerill, J (2000). 'Pressure Groups, New Social Movements and New ICTs: Greens and the Net', in S.Ward and R.Gibson, Reinvigorating Government? British Politics and the Internet, Ashgate, Aldershot.
- Pickerill, J (2000). 'Spreading the green word? Using the internet for environmental campaigning' ECOS, vol.21, no.1, pp.14-24
- Pickerill, J (2001). 'Environmentalists' internet activism in Britain' Peace Review, vol.13, no.3, San Francisco, pp.365-370.
- Pickerill, J (2001). 'Strengthening cohesion, networking cells; environmental activists' on-line' FibreCulture Reader, Melbourne, December.

- Pickerill, J (2001). 'Weaving a green web: Environmental protest and computer mediated communication in Britain', in F.Webster, Culture and Politics in the Information Age, Routledge, London, pp.142-166.
- Pickerill, J (*in press*). 'Rethinking political participation: Experiments in internet activism in Australia and Britain' in S.Ward, R.Gibson and A.Roemmele, Political organisations and online mobilisation. Routledge, London.
- Pipes, S (1996). 'Environmental Information on the Internet.' ECOS vol.17, no.2, pp.63-66.
- Pipes, S (1997). 'Raising the Standard: Access to Environmental Information.' [www.foe.co.uk/camps/edu/agi97.html](http://www.foe.co.uk/camps/edu/agi97.html). Friends of the Earth, 5th May 1998, 11 pages.
- Porritt, J (1984). Seeing Green: The politics of ecology explained. Oxford, Basil Blackwell.
- Poster, M (1997) 'Cyberdemocracy; Internet and the Public Sphere' pp. 201-217, in D.Porter, Internet Culture: Identity and Community in Cyberspace, Routledge, London
- Princen, T and Finger, M (Eds.) (1994). Environmental NGOs in world politics: Linking the local and the global. London, Routledge.
- Putnam, R (2001). Bowling Alone. Simon and Schuster.
- Putnam, R, Leonardi, R and Nanetti, R (1993). Making Democracy Work: Civic Traditions in Modern Italy. Princeton University Press, Princeton.
- Rawcliffe, P. (1998) Environmental pressure groups in transition. Manchester University Press, Manchester.
- Redden, G (2001) 'Networking dissent: the internet and the anti-globalisation movement' Mots Pluriels, no.18, [www.arts.uwa.edu.au/MotsPluriels/MP1801gr.html](http://www.arts.uwa.edu.au/MotsPluriels/MP1801gr.html).
- Reed, M (1999). 'Wide open to the web warriors' Marketing On-line <http://193.133.103.27/feature99/0204a/0204a.htm>
- Reid, E (1999). 'Hierarchy and power: Social control in cyberspace' pp.107-133 in M.Smith and P.Kollock, Communities in cyberspace. Routledge, London.
- Resnick, D (1998). 'Politics on the Internet: The Normalization of Cyberspace'. The Politics of Cyberspace. C. Toulouse and T. Luke, W. London, Routledge, pp.48-68.
- Rheingold, H (1994). The Virtual Community: Finding Connection in a Computerised World. London, Secker and Warburg.
- Rifkin, J (1989). Entropy: Into the Greenhouse World. New York: Bantam.
- Ritchie, D (1999a). Electronic Communications. Change Your World, pp.11-14.
- Ritchie, D (1999b). 'Welcome to the traffic-reduction email discussion list', received 8<sup>th</sup> April.
- Riviere, P (1999). 'How the Americans spy on all of us.' Le Monde, January.
- Roach, C (1995) 'Women and communications technology: What are the issues?' in P.Lee (ed.), The Democratization of Communication, University of Wales Press, Cardiff.
- RoadAlert (1997). Road Raging: Top Tips for Wrecking Road building. RoadAlert !, Berkshire, pp.171
- Robins, K (1995). 'Cyberspace and the World we live in' in 'Into the Image': Culture and Politics in the field of vision. K. Robins. London, Routledge, pp.85-103.
- Robins, K (1996). 'Cyberspace and the World We Live In' p.1-30 in Dovey, Fractal Dreams: New Media in Social Context. London, Lawrence and Wishart.
- Robins, K. and F. Webster (1999). Times of the Technoculture, Routledge, London.
- Rochon, T, R (1988). Mobilizing for peace – the antinuclear movements of Western Europe. Adamantine, London.
- Rodgers, J. (2001). 'NGOs and e-Activism: Institutionalizing or extending the political potential of the internet?' Paper presented to the ISA Hong Kong Convention of International Studies, 26<sup>th</sup>-28<sup>th</sup> July. Available at [www.isanet.org/archive/rodgers.html](http://www.isanet.org/archive/rodgers.html).

- Rootes, C (1995). 'A New Class ? The Higher Educated and the New Politics.' Social Movements and Social Classes: The Future of Collective Action. L. Maheu. London, SAGE Publications, pp.220-235.
- Room, D (1992). What is Anarchism ? An Introduction. London, Freedom Press.
- Rowell, A (1996). Green Backlash: Global Subversion of the Environment Movement. London, Routledge.
- Rowell, A (1999). 'Greenwash: isolate, cultivate, educate (and co-opt)', Peace News, September-November, no.2436, p.32.
- Rucht, D (1993). "'Think globally, act locally'? Needs, forms and problems of cross-national cooperation among environmental groups', pp.75-95 in J.D.Liefferink, P.D.Lowe and A.P.J.Mol, European Integration and Environmental Policy. Belhaven Press, London.
- Rudig, W and Lowe, D, D (1986). 'The withered 'greening' of British politics: a study of the Ecology Party' Political Studies, vol.34, no.2, pp.262-284.
- Rüdig, W. (1995). 'Between moderation and marginalization: Environmental radicalism in Britain.' Ecological Resistance Movements. B. Taylor, pp.219-240.
- Rüdig, W., J. Mitchell, J. Chapman, P. D. Lowe (1991b). 'Social Movements and the Social Sciences in Britain.' Research on Social Movements: The State of the Art in Western Europe and the USA. D. Rucht. Boulder, Colorado, Westview Press, pp.121-148.
- Rüdig, W., L. Bennie, M. N. Franklin (1991a). Green party Members: A Profile. Glasgow, Delta Publications.
- Rumble, S (1997). 'David meets McGoliath on the Web' The Australian, 29<sup>th</sup> April.
- Rushkoff, D (1994). Cyberia: life in the trenches of hyperspace. London, Harper Collins.
- Rushkoff, D (1998). 'Coercion and Countermeasures: The Information Arms Race' pp.218-227 in G.Stocker and C.Schoph, InfoWar, Springer Wien, New York.
- Sale, K (1995). Rebels against the future: The Luddites and their war on the industrial revolution. Lessons for the computer age. Addison-Wesley Publishing, pp.320.
- Scalmer, S (2002). Dissent events: Protest, the media and the political gimmick in Australia. University of New South Wales Press, Sydney.
- Schofield Clark, L (1998). 'Dating on the Net: Teens and the rise of 'pure' relationships' in S.Jones (ed.), Cybersociety 2.0: Revisiting Computer-Mediated Communication and Community. Sage Publications, Thousand Oaks, pp. 159-183.
- Schofield, J (1995). 'Netwatch.' The Guardian - Online. London: 5.
- Schumacher, E., F (1973). Small is Beautiful: A study of economics as if people mattered. London, Abacus.
- Schwartz, E (1996). NetActivism: How Citizens Use the Internet. Sebastopol, CA, Songline Studios.
- Schwartz, E (1998). 'An Internet resource for neighbourhoods.' Cyberdemocracy: Technology, cities and civic networks. R. Tsagarousianou, D. Tambini and C. Bryan. London, Routledge, pp.110-124.
- Schwarz, W (1994). 'Direct Action: Pulling in the same direction.' The Guardian. London: 18.
- Schwarz, W (1997). 'Lure of the Luddites.' The Guardian. London.
- Scott, A (1995). Ideology and the new social movements. Routledge, London.
- Scott, A and Street, J (2001). 'From media politics to e-protest? The use of popular culture and new media in parties and social movements' F.Webster (ed.), Culture and politics in the information age: a new politics?, Routledge, London.
- Secrett, C and Cochrane, P (1999). 'Are we hysterical about new technologies?' Guardian, Saturday Review, 12<sup>th</sup> June, p.2.
- Seel, B (1997). 'If not you, then who?' Earth First! in the UK, Environmental Politics, vol.6, no.4, Winter, pp.172-179.

- Shenk, D (1997). Data Smog, Abacus.
- Sherkat, D., E and T. Blocker, J (1993). 'Environmental Activism in the Protest Generation: Differentiating 1960s Activists.' Youth and Society vol.25, no.1, pp.140-161.
- Shurmer-Smith, P and Hannam, K (1994). Worlds of Desire; Realms of power; a cultural geography. Edward Arnold, London.
- Siegel, L. and J. Markoff (1985). The High Cost of High Tech: The Dark Side of the Chip. New York, Harper and Row.
- Silver, D (2000). 'Setting E-Commerce aside: A conference review' Directions and implications of advanced computing 2000: Shaping the network society: The future of the public sphere in cyberspace, May 20-23, Seattle, USA.
- Slevin, J. (2000). The Internet and Society. Polity Press, Cambridge.
- Smith, G, J, H (1996). Internet Law and Regulation (Special Report). London, FT Law and Tax.
- Smith, J, McCarthy, J, McPhil, C and Augustyn, B (2001) 'From protest to agenda building: description bias in media coverage of protest events in Washington, D.C.' Social Forces, vol.79, no.4, pp.1397-1424.
- Smith, P and Smythe, E (2001) 'Globalisation, citizenship and technology: the Multilateral Agreement in Investment (MAI) meets the internet' in F.Webster (ed.), Culture and politics in the information age: a new politics?, Routledge, London.
- Sommer, P (2000). 'Protection or persecution?' The Guardian, Online, 30th March p.2-3.
- Sprenger, P (1999). 'Pirates Sneer at Intel Chip' Wired News, 22<sup>nd</sup> January.
- Stabile, C, A (1994). Feminism and the Technological Fix, Manchester University Press, Manchester.
- Starr, A. (2000). Naming the Enemy: Anti-corporate movements confront globalization. Pluto Press, Annandale.
- Stefanik, N (1993). Sustainable Dialogue /Sustainable Development: Developing Planetary Consciousness via Electronic Democracy. Global Visions: Beyond the New World Order. J. Breacher, J. Brown Childs and J. Cutler. Boston, South End Press, 317 pages.
- Stoll, C (1995). Silicon Snake Oil: Second Thoughts on the Information Highway. London, Pan Books.
- Street, J (1992). Politics and Technology. Macmillan, London.
- Swift, R (2002) The no-nonsense guide to democracy. Verso/ New Internationalist, London.
- Sydenham, M (1996). Friends of the Earth Scotland's Green Home Handbook. Edinburgh, Friends of the Earth Scotland.
- Szerszynski, B (1998). 'Action's Glassy Essence: The Dramatics of Environmental Protest' paper presented at the Annual Conference of the Royal Geographic Society with the Institute of British Geographers, Kingston University, 5-8<sup>th</sup> January.
- Tang, P (1997). 'Multimedia information products and services: a need for 'cybercops'?' pp.190-208 in B.Loader, The Governance of Cyberspace; Politics, Technology and Global Restructuring, Routledge, London.
- Tarrow, S (1998a). 'Fishnets, Internets and Catnets: Globalization and Transnational Collective Action.' Challenging Authority, The Historical Study of Contentious politics. M. Hanagan, P, L. Moch, P and W. te Brake. Minneapolis, University of Minnesota Press, pp.228-244.
- Tarrow, S (1998b). Power in Movement: Social Movements and Contentious Politics. Cambridge University Press, Cambridge.
- Taylor, P (1999). Hackers. Routledge, London, pp.216.
- Taylor, P (2001). 'Hacktivism: in search of lost ethics?' in D.Wall, Crime and the Internet. Routledge, London.

- Terranova, T (2001) 'Demonstrating the globe: Virtual action in the network society' in D.Holmes (ed.) Virtual Globalization; Virtual Spaces/ Tourists Spaces. Routledge, London, p.95-113.
- The Express (1999). 'Net sparks city riot' The Express, 19<sup>th</sup> June, p.10.
- Thorpe, D (1995). 'What is an eco-naut? and is netsurfing a truly sustainable activity? A dialogue with a netsceptic' Clean Slate, no.18, autumn, p.12-13.
- Tilly, C (1978). From Mobilisation to Revolution. Reading, Addison-Wesley.
- Tilly, C (1986). The Contentious French. Cambridge MA, Harvard University Press.
- Toby (1997a). 'About the new SchNEWS site', Internal SchNEWS memo, 3<sup>rd</sup> March.
- Toby (1997b). 'SchNEWS to do/ Ideas' Internal SchNEWS memo, 6<sup>th</sup> June.
- Tokar, B (1992). The Green Alternative: creating an ecological future. San Pedro, California: R. and E. Miles.
- Trainer, T (1991). 'The Technological Fix.' In A.Dobson, The Green Reader. London, Andre Deutsch, pp.204-207.
- Tranter, B (1996). 'The social bases of environmentalism in Australia.' Australian and New Zealand Journal of Sociology vol.32, no.2, pp.61-85.
- Tsagarousianou, R (1998). 'Electronic democracy and the public sphere.' Cyberdemocracy: Technology, cities and civic networks. R. Tsagarousianou, D. Tambini and C. Bryan. London, Routledge, pp.167-178.
- Turner, R and Killian, L (1987). Collective Behaviour, Englewood Cliffs, NJ, Prentice Hall.
- Vidal, J (1996). 'You and I against McWorld' The Guardian, Weekend, 9<sup>th</sup> March, p.12-16.
- Vidal, J (1997a). McLibel: Burger Culture on Trial. London, Macmillan.
- Vidal, J (1997b). 'DIY Democracy: Direct Action: when all else fails, is it the best solution?' One Thousand Days: A special report on how to live in the new millennium (The Guardian and WWF-UK), pp.12-13.
- Vidal, J (1999). 'Modern Warfare.' Guardian, SOCIETY. London: 4-5.
- Vidal, J (2000a). 'The world@war' The Guardian, Society, 19<sup>th</sup> January, p.4-5.
- Vidal, J (2000b) 'Web of intrigue', The Guardian, Society, 28<sup>th</sup> August, p.8
- Virnoche, M and Marx, G (1997). "'Only Connect' - E.M.Forster In An Age Of Electronic Communication: Computer-Mediated Association And Community Networks'" Sociological Inquiry, 67, pp.85-100.
- Volti, R. (1992). Society and Technological Change. New York, St. Martin's Press.
- Vranesevich, J (1999). 'KaotiK Protest Conditions in East Timor.' www.antonline.com/SpecialReports/kaotik. Antionline.
- Wadham, J (1999). 'No, you're turning us all into criminals' The Guardian, 14<sup>th</sup> December, p.15.
- Wakeford, N., S (1995). 'Researching Diversity on the Net.' Electronic Journal of Virtual Culture 3(4).
- Walch, J (1999). In the Net: An Internet Guide for Activists. Zed Books, London.
- Walcroft, G (1998). Whose turn is it to wash up? Gender relations and stereotypes within anti-roads protest camps, unpublished undergraduate dissertation, Womens Studies, Leeds University.
- Wall, D (1999a). Earth First! and the Anti-Roads Movement: Radical environmentalism and comparative social movements. Routledge, London.
- Wall, D (1999b). 'Mobilising Earth First! in Britain.' Environmental Politics(Spring), p.81.
- Walters, W (2002). 'Social Capital and Political Sociology: Re-imagining Politics?' Sociology, vol.36, no.2, pp.377-397.
- Wapner, P (1995). 'Politics Beyond the State: Environmental Activism and World Civic Politics.' World Politics 47, pp.311-340.

- Warf, B and Grimes, J (1997). 'Counterhegemonic Discourses and the Internet.' The Geographical Review vol.87, no.2, pp.259-274.
- Wark, M (1994). 'Third nature', Cultural Studies, vol.8, no.1, pp.115-132.
- Warschauer, M (2002). 'Reconceptualizing the Digital Divide', First Monday, vol.7, no.7, [http://firstmonday.org/issues/issue7\\_7/warschauer](http://firstmonday.org/issues/issue7_7/warschauer).
- Washbourne, N (1999a). Beyond Iron Laws: Information Technology and Social Transformation in the Global Environment Movement. Unpublished PhD thesis. University of Surrey.
- Washbourne, N (1999b). 'New Forms of Organizing? Translocalism, Networks and Organizing in FoE' paper presented at the 'A New Politics? Representation, Mobilisation and Networks in the Information Age' Conference, University of Birmingham, 16-17th September.
- Weatherley, R (1994). Friends of the Earth Information Systems Strategy. London, Friends of the Earth.
- Webster, F (1995). Theories of The Information Society. Routledge, London.
- Webster, F and Robins, K. (1986). Information Technology: A Luddite Analysis. Ablex, New Jersey.
- Which?Online (2002). Annual Internet Survey 2002. [www.which.net/surveys/survey2002.pdf](http://www.which.net/surveys/survey2002.pdf).
- White, C (1999). Environmental Activism and the Internet, unpublished Masters thesis, Massey University, New Zealand, [www.arachna.co.nz/thesis/](http://www.arachna.co.nz/thesis/).
- Whittikar, M (1996). 'Costing the Earth', BBC Radio 4, 17<sup>th</sup> April.
- Wilkin, P (2000). Solidarity in a Global Age - Seattle and Beyond, presented at Lancaster University, January.
- Willetts, P (1996). 'From Stockholm to Rio and beyond: the impacts of the environmental movement on the United Nations consultative arrangements for NGOs,' Review of International Studies, vol.199, no.22, pp.57-68.
- Wills, M (1999). 'Net profit and lost innocence' The Times, 19<sup>th</sup> May, p.20.
- Willson, M (2002) Technically Together: the implications of using communication technologies for our understandings and experiences of community unpublished PhD Monash University, Australia.
- Winner, L (1986). The Whale and the Reactor: A Search for Limits in an Age of High Technology. Chicago, University of Chicago Press.
- Winner, L (1988). 'Mythinformation' in J.Zerzan and A.Carnes (Eds.), Questioning Technology – a critical anthology. Freedom Press, London.
- Witherspoon, S (1994). 'The Greening of Britain: Romance and Rationality.' British Social Attitudes, The 11th Report. R. Jowell, J. Curtice, L. Brook and D. Ahrendt. Aldershot, Dartmouth Publishing Company, pp.107-139.
- Wood, D (2002). Personal communication, August.
- Woolf, M (1995). 'Green protesters give up scraps of paper for the Internet.' The Independent on Sunday. London, p.5.
- Woolley, B (1992). Virtual Worlds: A Journey in Hype and Hyperreality. Blackwell, Oxford.
- Wray, S (1998a). 'Electronic Civil Disobedience and the World Wide Web of Hacktivism: A Mapping of Extraparliamentarian Direct Action Net Politics.' [www.nyu.edu/projects/wray/wwwhack.html](http://www.nyu.edu/projects/wray/wwwhack.html). New York University, 13 pages.
- Wray, S (1998b). 'Transforming Luddite Resistance into Virtual Luddite Resistance: Weaving A World Wide Web of Electronic Civil Disobedience.' [www.gn.apc.org/pmhp/dc/activism/srway.htm](http://www.gn.apc.org/pmhp/dc/activism/srway.htm). New York University, 3 pages.
- Young, I, M (1990). Justice and the Politics of Difference, Princeton University Press, Princeton.

- Young, J, E (1993). Global Network: Computers in a sustainable society. World Watch Paper 115, September, pp.57. Washington DC.
- Zelwietro, J (1998). 'The Politicization of Environmental Organizations through the Internet' The Information Society, 14, pp.45-56.

## Appendix: Case study profiles

Group	Aims	Internal structure	Tactics
Centre for Alternative Technology (opened 1975)	To showcase alternative technology to inform, inspire and enable others to utilise more sustainable living practices.	The centre is run by a co-operative and full time staff (who are all paid the same wage) supplemented by both long and short term volunteers. The Alternative Technology Association (ATA) is CAT's supporter group. ATA has approximately 4,000 members, holds annual conferences, and produces the Clean Slate magazine. The majority of CAT's income comes from visitors and donations, and other revenue is raised through publications, mail order, residential courses and consultancy. The seven acre site houses the visitor complex, a shop and restaurant, environmental information centre, a mail order service, a consultancy, a publications department, education department, and eco-cabins.	Although CAT is primarily a visitor centre, it also runs training courses about alternative technology, publishes a range of books, operates the eco-cabins as an educational centre for school children, provides consultancy to organisations, and runs a free information service.
Friends of the Earth UK (formed 1971)	To take action to change policies or practices that degrade the environment. In 2002 its major campaigns were corporates, real food and transport.	The FoE (England and Wales) network is composed of the national office, eight regional campaign co-ordinators and 250 local groups. FoE Scotland operates as a separate group. The local groups are encouraged to take actions of their own, choose their own campaign priorities and to function as autonomous units. Local groups' reliance upon FoE Ltd varies considerably, with some employing full time staff. Membership at the national level has increased steady since 1971 with a sharp increase in 1988-1989 which then subsided and in the late 1990's numbers were stable. FoE relies on ninety six per cent of its income to come from individual supporters' contributions, and the rest from fundraising events, sponsorship, grants and trading.	FoE's strategy has been five pronged; (1) the use of political lobbying and legislative activity, (2) scientific research and information provision, (3) employing the media, (4) the mobilisation of the public through local groups and mass rallies, and (5) co-ordination and co-operation with other groups. FoE's aversion to the use of illegal direct action and its emphasis upon political lobbying prevents it being a radical environmental group.
Green Student Network (formed late 1980s)	To exchange information, debate environmental issues and facilitate local groups to take action.	GSN had a very loose organisational structure. Initially centred on British University green groups, national gatherings and a newsletter produced by the co-ordinator, any structure fragmented in 1998. GSN effectively became less of a network with a strategic function and more a non-hierarchical collection of disparate individuals communicating via an	As GSN was not a campaigning group as such it did not have campaign tactics or priorities. However, certain topics were discussed more than others on the email list. The topics very much reflected the immediate environmental concerns within British environmental politics.



		email list. Participation was free and not regulated. Users simply sent an email to a specific address that automatically added them to the list. There was a high turnover of participants in the email list. GSN had no source of income.	
McSpotlight (launched 1996)	To gather all the critical information about McDonalds and to make this publicly available; to act as a support network for all those aiming to expose operations of multinational corporations (such as the McLibel trial) and to demonstrate that attempts at censorship would fail.	The McInformation Network, a loose coalition of individuals, created the website. Many people joined in to do a small section of work or a specific task and then left, while others continued to be involved through the peak of popularity of the website. The contributors to the site were spread internationally, with fifty people from across the globe, and email was used to help co-ordinate these efforts. Many have never even met. McSpotlight was a collaborative but ad-hoc effort with a core of volunteers who tried not to dominate decisions about content. There was an attempt to organise using non-hierarchical methods. McSpotlight did not have a membership, but participants could sign up to email distribution lists or contribute to the debate forum. McSpotlight relied upon donations and sales of its merchandise for its income.	The tactic adopted by McSpotlight was to post anti-McDonalds information on their website for all to see. The McSpotlight website contained over 20,000 pages with many different sections about the McLibel trial, issues, campaigning tools, a debate area, media coverage, court transcripts, transcripts of interviews with key witnesses and the libellous leaflet translated into 20 languages ready to print off.
Mobile Office (formed 1997)	To provide activists involved in site protests access to office facilities to: (1) distribute information, (2) assist communication (3) assist with safety on site, (4) act as an information and resource centre, and (5) record events for archives.	The MO was run by a small group of volunteers, but once on site others from the protest camp, and locals, tended to become involved. MO attempted to organise in a non-hierarchical structure, however, Pete, who spent the most time on the project, was often able to make final decisions. The van and equipment were acquired on 'tat runs' <sup>1</sup> , donated or purchased using a grant.	MO has been involved in several direct action campaigns where it has provided the office equipment, communications technology and resource base for activists.
Save Westwood, Lyminge Forest (occupied 1997)	To prevent the development of a holiday complex Lyminge forest.	The campaign was an organic direct action protest that was not the by-product of a particular organisation or pre-existing group. Non-hierarchical and decentralised forms of decision-making were practised with whatever participants were present. From March 1997 to the final months of 1999 between ten and one hundred protesters have lived in several camps across the development site. The protesters in the forest relied upon their own income and donations.	Several tactics have been employed: their occupation of the site (by building tunnels, towers, tree houses and lock-ons) was an act of resistance to any attempts at clearing the wood to build the development. Through this act and associated media attention they also sought to raise the public profile of the proposals in order to gain mass support to pressurise the local council and Forestry

			Commission. They also undertook other direct actions such as the occupation of Ranks boardroom. Finally, on some of their publicity flyers they encouraged writing to MPs to support the on-site protesters' action.
SchNEWS (launched 1994)	To distribute the news which is ignored by the mainstream media. It is also anti-copyright, encouraging readers to copy and distribute it themselves.	SchNEWS was run entirely by volunteers, roughly twenty five people at any one time, in a non-hierarchical manner, using consensus decision making and monthly review meetings to determine courses of action. A weekly timetable for activities and jobs to be done was established so that people know when stories can go in, and when different volunteers are required. New volunteers are continuously sought and training days arranged to teach the necessary skills to new-comers. Costs were covered by donations and subscriptions.	Various tactics were employed to distribute SchNEWS as widely as possible – it was available via email, posted on their website, posted through the mail and distributed by hand on the street, through festivals, bookshops and groups copying the originals.

*Sources:* Information supplied by groups and Anon, (1998h), Anon, (1999b), Atton, (2000), Blue, (1997), Frisch (1994), George, (1999), Gibbs (2000), Greenberg (1985), Jenkins (1995), Krinks, (1997a), Lamb (1996), Lowe and Goyder (1983), McCormick (1995), Mills, (1997), Pipes (1996), Rawcliffe (1998), Reed, (1999) and Wapner (1995).

## Notes

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- 1 The preferred term for internet based technologies is computer mediated communication (CMC). Other terms with a similar meaning include new Information Communication Technologies (ICTs), New Communication Technologies (NCTs) and network technologies. ICTs are often used to refer to internet technologies, but encompasses a wider variety of technologies than CMC, covering as it does the more general fusion of telecommunications and computing technology.
- 2 Surveys were also used to gather supplementary information. A questionnaire was attached to the Save Westwood, Lyminge Forest website to gain an indication of its readership. Over the seventeen month period that it was on-line forty three responses were received. An email questionnaire was sent out to the GSN to contact potential interviewees and to gain a sense of views across the group, there was a twenty two per cent response rate.
- 3 Names have been quoted as requested by interviewees – thus those at FoE and CAT suggested use of full names, whilst others used just their first or pseudonyms. Unless otherwise labelled an interviewee was a participant in the case study rather than holding a formal position of responsibility. Although interviewees undertook certain roles few categorised or delineated their position and preferred for all participants to be viewed as equal.
- 4 These individuals tended to be affiliated to some sort of environmental group. Often they had multiple affiliations or were only tenuously involved in a group. These groups included Cornerstone Co-operative, Earth First!, Hunt Saboteurs Association, Newcastle Green Festival, North East Green Party, Peace Action, Reclaim the Streets, (S)hell, Squall, and Urban75. The details of these are outlined as such individuals are made reference to throughout the text.
- 5 Recruitment occurred until it was either perceived that a significant number of voices had been represented and redundancy was occurring (in terms of new themes emerging), or that the key players in each group had been interviewed and no further access to individuals was possible.
- 6 In 1998 GSN officially merged with SEA (Student for Environmental Action), to produce SEN (Student Environmental Network) though the email list maintains the original GSN name and few other changes appear to have occurred.
- 7 It was unclear whether in ‘mainstream’ participants were referring purely to the mainstream media, or more broadly to the ‘mainstream’ of society.
- 8 Throughout the text interviewees’ quotes will be employed to enforce a point – but obviously these quotes will be representative rather than a cohesive picture of all that was said.
- 9 It is important to note that cyberspace and CMC are not necessarily one of the same. Cyberspace tends to be restricted in its meaning to the on-line virtual space visited by users. In contrast, this book is more broadly concerned with CMC – which incorporates this on-line space, but also the off-line hardware, software and social context through which communication is operated.

- 10 It is also pertinent that many social movement theorists have begun to look beyond the use of NSM, or indeed any one particular approach, and develop syntheses to work towards more integrated perspectives (see for example McAdam *et al.*, 2001).
- 11 The British environmental movement is tied into the international environmental scene through collaborations between international NGOs or skill sharing between direct action activists (Wall, 1999a).
- 12 CMC is more than just an extension of existing media not just in enabling interactivity but in providing space for files, audio, video etc, to be shared easily.
- 13 Tarrow (1998b) also proposes that forms of collective action change over time through the 'protest cycle', which goes from incubatory stages with a small base to its height which includes an increased pace of innovation, and rapid diffusion of collective action to new participants, followed by a routinisation, and subsequent disillusionment. Each cycle widens the repertoire of collective action.
- 14 CMC is simultaneously both private and public in nature and there has been extensive debate linking ideas of public sphere to cyberspace (Poster, 1997).
- 15 The use of the term 'techno-environmentalism' should not be confused with the term 'technological environmentalism' or 'technocentrism' as used by Pepper (1984). Pepper uses the term to refer to the dominant approach to viewing the environment by a society. Such a perspective advocates that humans are able to manipulate and appropriate nature for their own means and that use of high technology is desirable.
- 16 High technology is rejected by many environmentalists for a number of reasons (Lewis, 1992). The dehumanisation of the production process and destruction of jobs (and thus social relations) is identified as a major flaw of advanced technology. The waste, pollution, and health effects (through production and consumption, such as allergies to plastics) are problematic. Technological developments are also cited as enabling centralisation of power and more numerous means of social control and surveillance. Many technological developments are seen as an affront to nature. Genetic engineering is taken as an example of humans apparently trying to play God. Finally, Lewis believes that eco-radicals are anti-science. Science is depicted as the 'progenitor of harmful technologies' (Lewis, 1992, p.124), and as taking a reductionist, rather than holistic, view of the world.
- 17 Earth First! (EF!) is a radical environmental network which first came to prominence in the UK in the early 1990s as being proactive, confrontational and encouraging the destruction of machinery or crops (Seel, 1997). EF! eschews any formal structures or membership, being purposefully non-hierarchical. It is a fluid network and incorporates many individuals who are involved in other campaigns. EF! UK publish a monthly newsletter called the *Earth First! Action Update* and a yearly journal, *Do or Die*. EF! also organises twice yearly gatherings, in winter and summer. There are several EF! web pages such as EF! Leeds website ([www.leedsef.ukf.net](http://www.leedsef.ukf.net)) and pages from South Downs Earth First! ([www.eco-action.org](http://www.eco-action.org)) – which contains the action updates and lists of contacts for local groups. Any activists are quoted as participants but not representatives of Earth First!.
- 18 It is now possible to use CMC without directly accessing a computer – through WAP phone technology or digital television. In Australia, the Melbourne Indymedia collective

have also developed the PIMP interface which enables users to download audio reports onto Indymedia (an open publishing newswire) websites directly through a phone (for further details see Pickerill, *forthcoming*).

- 19 The original Luddites of the early 1800s smashed the mechanical looms that were causing their unemployment. However, they were not against the technology *per se*, but opposed to its inappropriate use and their lack of control over its implementation (Boal, 1995; Sale, 1995).
- 20 An on-line questionnaire was attached to the Save Westwood protest website between January 1998 and May 1999. It was to assess how they had found out about the campaign and the website, their involvement in the campaign and their views about using new communication technologies. Over the seventeen month period that it was on-line forty three responses were received. As there was no visitor counter attached to the website it was not possible to determine what percentage response this was.
- 21 There is a large body of literature which critiques CMC, but the majority of this is not written from an environmental perspective or by environmentalists, see for example Boncheck, 1995, Webster and Robins, 1996, Stoll, 1995.
- 22 An email based questionnaire was posted to the Green Student Network in April 1999. Its purpose was to assess similarities and differences across the group. There were seventeen completed responses to the questionnaire. At the time the email list comprised of seventy six members, thus there was a twenty two per cent response rate.
- 23 Reclaim the Streets (RTS) was originally formed in London in 1991 (Anon, 1997g). They began with small scale anti-car actions and then started the now infamous Reclaim the Street parties where roads were taken over and traffic stopped for a day by activists who then held a party on the street or as in July 1996, the M41 motorway (Jordan, 1998). Such actions have inspired replicas world-wide and autonomous groups have temporarily adopted the name. Although RTS began focused on transport issues, they were more broadly interested in the political and economic forces which drive 'car culture'. In the late 1990s RTS was associated with the anti-capitalist protests in London on 18<sup>th</sup> June 1999, and May Day 2000. Their website is at [www.reclaimthestreets.net](http://www.reclaimthestreets.net).
- 24 (S)hell was an anti-Shell group which undertook direct action against the oil company Shell. In particular the group occupied Shell's headquarters in London on 4<sup>th</sup> January 1999.
- 25 This is because 'I want a society where people actually communicate with each other directly and have control over their own lives and communities and the higher level the technology in a society, the more alienated people are from each other and from the decision making process' (Dave Morris, McSpotlight).
- 26 However, the paper free office promised by the use of computers never happened, and significant use of paper and printing materials continues despite electronic storage.
- 27 The North East Green Party is a faction of the national Green Party. The Green Party, committed to ecological sustainability and social justice, stands in local, general and European elections. The North East Green Party seeks to support the Green Party's aims and also campaign about issues in the local context. Their website is at [www.gn.apc.org/negreens](http://www.gn.apc.org/negreens).

- 28** Peace Action was a small Newcastle University based student group which aimed to take informed action for global peace. They used direct action tactics to protest about unethical arms trading, nuclear power and weapons, and pollution.
- 29** For example, it could be inferred that CAT advocate that appropriate and measured use of technology is justifiable. Their audience are the general public who are intrigued to know how their current standard of living could be maintained using fewer environmentally damaging technologies. CAT are able to adequately justify their CMC use within the context of their mission and remit.
- 30** The social base of environmental *activism*, is different to the social base of environmental *concern*, which reflects a wider cohort of society (Sherkat and Blocker, 1993).
- 31** Increasingly people are beginning to question the applicability of traditional notions of class, especially radical environmentalists (Rüdig *et al.*, 1991a; Jordan and Maloney, 1997). Lowe and Shaw (1993) in their interview with Sam of the Dongas Tribe create an image of a class-less being. Someone who has detached themselves from society to such an extent that they should not be placed into any of societies categories, including that of class.
- 32** Urban75 ([www.urban75.com](http://www.urban75.com)) is an on-line magazine about environmental direct action, rave culture, drugs and football.
- 33** Squall ([www.squall.co.uk](http://www.squall.co.uk)) was a quarterly magazine catering for the alternative, direct action market including squatters, travellers and environmentalists. Begun in 1992 it was originally produced on paper, but since June 1998 has used the internet as its primary medium for dissemination.
- 34** There are several ISPs who offer free space to environmental groups for example, GeoCities, and many organisations provide space such as OneWorld, Association for Progressive Communications (APC) and many Universities.
- 35** Despite the plethora of web design packages available, there is increasingly regular use of languages such as java, rather than one simpler standard of html.
- 36** N5M ([www.dds.nl/~n5m/n5m3](http://www.dds.nl/~n5m/n5m3)) was a conference in Amsterdam about 'tactical media'.
- 37** Although FoE's original concept of FoEnet included extending its facilities to the local groups this vision was never realised due to an estimated and unfeasible expense of £500,000 (Lamb, 1996).
- 38** For SchNEWS 'the target audience is, in order of priority - activists, journalists and academics, and then anyone else, so we did keep those people in mind when we actually designed the site' (Toby).
- 39** For example for a live debate on the McSpotlight site, the software was kept deliberately simple 'we felt that getting hold of the IRC software often put people off. This runs on just CGI scripts, so anyone with Netscape 2 or higher can join in' ([www.mcspotlight.org/livedebate/help.html](http://www.mcspotlight.org/livedebate/help.html)).
- 40** This is also partly because FoE did not want to put too much information on its website and undermine their sources of income from publications or membership.

- 41 This was despite the fact that 'computers on site aren't networked, it means that the only way we can send internal emails is by sending them off site and then coming back on a again' (Steve, CAT).
- 42 Not only in terms of physical access and possessing the skills, but by restricting the number of people who knew the password which enabled the website to be edited.
- 43 A web site with an interactive map illustrating UKs Sites of Special Scientific Interest and the threats to them. Its aim was to give public access to FoEs unique database and help generate support for the Wildlife Bill.
- 44 Participatory democracy being a slow process can be advantageous to environmental decision making as environmental problems require deliberation and long term solutions (Swift, 2002). However, this only works if environmental groups are operating in a society that has adopted a form direct democracy, not one in which representational politicians are funded (and thus influenced) by corporate donations and set a frenetic pace of decision making.
- 45 Putnam (2001) does, however, foresee government as a more non-hierarchical structure that is responsive to the demands of its civic society, and the voluntary associations as practicing self-governance, which is in line with many environmental groups desires for participatory democracy.
- 46 Putnam also ignores the negative features of associational activities such as criminal gangs or that 'rival groups in society may exhibit high levels of social capital *within* groups but low social capital *between* them' (Mohan and Mohan, 2002, p.195).
- 47 Several interviews confirmed that they had first heard about the campaign through SchNEWS.
- 48 Wizard (Lyminge Forest) commented 'there's pretty much an underground network, once you get into it there's people you know ... and they'll say oh I'm just off to somewhere else do you want to come along and get to another site that way ... sort of a big family really, it's sort of a bit of a tribe'.
- 49 Between April 1998 and April 1999, 207 new people joined over the web (Charles Linn, FoE).
- 50 According to questionnaire results, thirty five per cent of questionnaire respondents heard about GSN by word of mouth, twenty nine per cent through a local environment group, twenty four per cent through a website and twelve per cent through a magazine or newsletter.
- 51 The Survey was sent to 11,700 supporters inside the November 1997 edition of Earth Matters, and had a response rate of eighteen per cent.
- 52 Factor Watch was an interactive map of polluting factories with an ability to rank local factories based on several criteria.
- 53 This was in contrast to previous use of CMC by Newcastle FoE. In 1997 Newcastle FoE had a website included meeting times, copies of past newsletters and press releases, campaigning information and a form to print off and post to join Newcastle FoE. It also

included the facility to send a fax directly protesting the Business on the Moor scheme by Newcastle United.

- 54** Based on analysis and categorisation of postings to GSN throughout the research period.
- 55** Although the website questionnaire respondents only represented a (self selecting) fraction of visitors to the site and there were no other statistics available with which to determine site visitors (as there was no counter on the site and access statistics were not available), the results do provide an impression of the website readership although there are clearly some limitations to the data available.
- 56** This readership was also divided between male (forty four per cent) and female (fifty six per cent). There was a broad spread of ages represented, with a dominance of sixteen to twenty year olds. Two thirds of respondents were educated to University level (with fourteen per cent to Secondary and nine per cent to alternative systems), and forty three per cent were still in full time education, few were unemployed and there were almost as many in self employment as full time employment.
- 57** The website had an international readership – seventy two per cent of the questionnaire respondents were from Britain, eight per cent from the USA, five per cent from Germany, and the rest equally divided between France, Canada, New Zealand, Australia, Ireland.
- 58** Newcastle Community Green Festival was an annual spring event in Newcastle-upon-Tyne. A coalition of groups came together and organised the free festival which includes bands, stalls, a temporary eco-village and workshops.
- 59** Unlike GSN the discussions were moderated, though exclusions were limited, ‘there’s very strict guidelines as to what is moderated out’ (Bob, McSpotlight).
- 60** The functioning of open discussion lists of the indymedia network is just one example where significant attempts have been made to preserve the usefulness of the list. Specific procedures have evolved whereby consensus decisions are made by participants via email (see Pickerill, *forthcoming*, for further discussion).
- 61** A ‘lock-on’ is when an activist deliberately locks themselves to something to prevent being moved.
- 62** Doherty (1999a) has used the term ‘manufactured vulnerability’ to refer to the way in which environmentalists deliberately put themselves in danger, by for example, hanging in trees, or locking-on to concrete in a road, in order to call authorities bluff, frustrate and delay eviction.
- 63** Information about how to participate in ECD is available from several websites, activist workshops and activist publications. For Example, the EF! Publication Do or Die no.8 (1999) contained a resource list of references about hacktivism.
- 64** This use of the term ‘swarming’ differed from the way it has been employed by Arquilla and Ronfeldt (2000) and subsequently Castells (2001). In their work it has been taken only to refer to its’ use in a military context – to the use of highly trained military units operating autonomously with significant weaponry at their disposal. In relation to activists, a broader approach is taken to represent autonomous units coordinating simultaneous non-violent tactics as part of a strategy of civil disobedience.



- 65 The most popular sections of the site (according to questionnaire respondents) were 'what we are doing' and 'what's going on', thus people were more interested in what was going on, the alternative news, than the general background to the campaign.
- 66 The majority were gleaned from environmental activism email distribution lists. A by-product of this process was that after the advent of CMC much of the content of EF!AU had already been available/ delivered to those environmentalists who were on-line (except the middle sections of the newsletter which were often original feature pieces). Although the newsletter served to collate all the information into a useful focal reference point, its necessity was reduced for those on-line activists who had previously read it as a source of information.
- 67 Despite these innovations in formats of on-line publications hard copy productions continued and 'it hasn't replaced that at all' (Dave, Cornerstone Resource Centre).
- 68 Hunt Saboteurs Association ([www.huntsabs.org.uk](http://www.huntsabs.org.uk)) is a direct action anti animal (fox, stag, mink and hare) hunting organisation that organise the disruption of hunts. It is a national organisation, has over 140 local hunt saboteur groups and produces a quarterly magazine.
- 69 This is not to say that all environmental activists are targeted for surveillance, but certain cohorts of the movement (such as the more radical or anarchist direct action environmentalists and peace activists) and certain activities (such as large scale marches, road protests, genetic crop destruction, or animal liberation) are now routinely observed.
- 70 The British government has in the past employed private security firms (such as Brays Detective Agency and Group 4) to undertake surveillance of environmentalists, especially anti-roads protesters (Wall, 1999a; O'Hara, 1994). They also have specific Forward Intelligence Teams (or Evidence Gatherers) that have been established to collect intelligence about activists and groups over a period of time (Lodge, 1999; Bennetto, 1998).
- 71 Cornerstone Resource Centre is based in a housing co-operative in Chapeltown, Leeds. The Centre is used by a variety of groups interested in environmental direct action (such as a local Earth First! group), prisoner support, peace camps and co-operative housing. Their website is at [www.cornerstone.ukf.net/crc](http://www.cornerstone.ukf.net/crc).
- 72 A visitor to the website actually commended the protesters on giving 'relevant information without telling the visitor anything that could be used to incriminate' (Lyminge Forest questionnaire respondent no.36).
- 73 SchNEWS produced an 'RIP it up!' three-step guide to avoiding the RIP. This included avoiding the big corporate ISPs, who were part of the 'multinational internet oligarchy' and locating instead either abroad or with a small UK ISP. Second, to use encryption and anonymous web surfing software. Finally, rather than storing data on a PC hard drive (which can be accessed under warrant using the RIP Act), store data on secure sections of the internet (Anon, 2000g).
- 74 ECHELON is a network capable of tapping international telephone, fax and email communication (Penman, 1999; Campbell, 2000a). It has since been renamed, however the project continues and it is known to enable word, phrase and context recognition surveillance of CMC, amongst other things (Wood, 2002). The project is coordinated by the

US, but runs through the UKUSA system (Hager, 1996). The US National Security Agency's base at Menwith Hill, North Yorkshire also intercepts emails and is part of the ECHELON project (Fogg and Zobel, 1998). There have also been other protests against ECHELON, namely Jam ECHELON Day coordinated by Rtmark in 1999.

- 75** The operation is based at the General Communications Headquarters (GCHQ) in the UK that specialises in electronic eavesdropping (Murray, 1993; Campbell, 1981; Anon, 1997f).
- 76** This was confirmed during an informal chat with Public Relations at New Scotland Yard.
- 77** The use of law suits by companies to prevent the public airing of some environmentalists views, such cases have been termed 'Strategic Lawsuits Against Public Participation' (SLAPPs). They are designed to intimidate activists into silence. McLibel was a classic case where McDonalds sued Dave Morris and Helen Steel for handing out anti-McDonalds pamphlets (Beder, 1997).
- 78** Debates included 'What is better for you: organic, conventional, or genetically modified food?', 'Science or public perception?', 'Does the destruction of GM-crop trial sites deny the public the opportunity of finding out their effects on the environment?' and 'Should a centralised European regulatory agency for genetically modified products be created?'.
- 79** If, at the end of the day, all the attention CMC has received has been undue, then this in itself still needs to be acknowledged. Like many new technologies in its early stages it appeared revolutionary, and if after time it is obvious that it was not, the processes of its use and adoption and the reasons why the 'rules of the game' weren't changed still need to be analysed.
- 80** Though of course it is the proliferation of cheap air travel that has enabled such activists to travel more easily.