The coinidence of the changing of circumstances and of human activity can be conceived and rationally understood only as revolutionizing practice.

Karl Marx

A community will evolve only when a people control their own communication.

Frantz Fanon

As the third millennium unfolds, one of the most dramatic technological and economic revolutions in history is advancing a set of processes that are changing everything from the ways that people work to the ways that they communicate with each other and spend their leisure time. The technological revolution centers on computer, information, communication and multimedia technologies. These are key aspects of the production of a new economy, described as postindustrial, post-Fordist and postmodern, accompanied by a networked society and cyberspace, and the juggernaut of globalization. There are, of course, furious debates about how to describe the Great Transformation of the contemporary epoch, whether it is positive or negative, and what are the political prospects for democratization and radical social transformation.\(^1\)

In this chapter, I will engage some issues involving globalization, technological revolution and the alleged rise of a new economy, networked society and cyberspace in relation to the problematic of revolution and the prospects for a radical democratic or socialist transformation of society. Globalization and the rise of a new computer and information-technology-based economy and society are interpreted in both popular and academic literature as a 'revolution' in which new technologies are transforming every mode of life from how individuals do research to how they communicate and interact socially. There is some truth in this, but it is also true that the technological revolution perpetuates the dominant economic and political powers, intensifies disparities between haves and have-nots, and is a defining feature of a new form of global technocapitalism.

While there are novelties and discontinuities in the current processes of economic, political, social and cultural constellations that characterize the contemporary moment, there are also continuities with the 'old' structure of modern society to be noted. In particular, the 'new' economy, with its crucial features of the 'old' capitalism such as the driving force of accumulation, competition, commodification, exploitation and the cycle of growth and crisis. From this perspective, globalization and technological revolution must be theorized as forms of the global restructuring of capitalism and technological development and a turbulent socioeconomic system of forces, which are intrinsically interconnected.

As to whether globalization renders revolution in the classical tradition obsolete, I would argue that much significant political resistance today, especially resistance to globalization, is mediated by the use of computer and information technology, be it mediated through mainstream media and thus increases potential for political intervention by oppositional groups. Hence, if revolution is a concept of its strategy, conceiving of technopolitics, however, as an end and not an end in and of itself.

Consequently, in this chapter, I focus on the ways that technopolitics can use new technologies to intervene within the globalizing capitalism to promote democratic and anti-capitalist movements aiming at radical structural transformation. I would argue that globalization and technological revolution are in some ways complementary, and that barring an apocalyptic collapse of the global economy — which is unlikely — the trends of globalization and cultural, a networked society, and the production of commodities, images, cultural forms, technology and the globe will continue apace, as will intense technological revolutions. What these revolutions may take the form of what Schumpeter called 'creative destruction'. My guarantee is that the next decades will be highly turbulent, contentious, struggling and conflict. But the forms that globalization and
development will take are neither fixed nor determined. Hence, I would argue that it is perfectly reasonable to oppose corporate capitalist globalization and its market model of society, its neoliberal laissez-faire ideology and its putting profit, competition and market logic before all other aspects of life. I will accordingly focus on the ways that technopolitics can be and is being used for anti-capitalist contestation, while noting the limitations of this conception.

Technopolitics and Oppositional Political Movements

Significant political struggles today against globalization are mediated by technopolitics — that is, the use of new technologies such as computers and the Internet to advance political goals. To some extent, politics in the modern era has always been mediated by technology, with the printing press, photography, film, radio and television playing crucial roles in politics and all realms of social life, as McLuhan, Innis, Mumford and others have long argued and documented. In representative democracies participation is mediated by technology, as the disastrous failure of voting machines and the vote-counting process in the 2000 US presidential election dramatized (see Kellner 2001).

What is new about computer and information-technology-mediated politics is that information can be instantly communicated to large numbers of individuals throughout the world who are connected via computer networks. The Internet is also potentially interactive, allowing discussion, debate and on-line and archived discussion. The Internet is increasingly multimedia in scope, allowing the dissemination of images, sounds, video and other cultural forms. Moreover, the use of computer technology and networks is becoming a normalized aspect of politics, just as the broadcasting media were some decades ago. The use of computer-mediated technology for technopolitics, however, opens new terrains of political struggle for voices and groups excluded from the mainstream media and thus increases potential for intervention by oppositional groups, potentially expanding the scope of democratization.

Given the extent to which capital and its logic of commodification have colonized ever more areas of everyday life in recent years, it is somewhat astonishing that cyberspace is by and large decommodified for large numbers of people — at least in the overdeveloped countries like the United States. On the other hand, using computers, transforming information into data-packets that can be sent through networks, and hooking oneself up to computer networks oneself, involve a form of commodified activity, inserting the user in networks and technology that are at the forefront of the information revolution and global restructuring of capital. Thus the Internet is highly ambiguous from the perspective of commodification, as from other perspectives.

Nonetheless, in many areas of the globe, government and educational institutions, and some businesses, provide free Internet access and in some cases free computers, or at least workplace access. With flat-rate monthly phone bills (which do not exist, however, in much of the world), one can have access to a cornucopia of information and entertainment on the Internet for free, one of the few decommodified spaces in the ultra-commodified world of technocapitalism. 2 So far, the 'information super-highway' is a freeway, although powerful interests would like to make it a toll road. Indeed, commercial interests are quickly converting it into a giant mall, thus commercializing the Internet and transforming it into a megaconsumer spectacle (see Schiller 1999).

Obviously, much of the world does not even have telephone service, much less computers, and there are vast discrepancies in terms of who has access to computers and who participates in the technological revolution and cyberdemocracy today. As a result, there have been passionate debates over the extent and nature of the 'digital divide' between the information haves and have-nots. Critics of new technologies and cyberspace repeat incessantly that it is by and large young, white, middle- or upper-class males who are the dominant players in the cyberspaces of the present. While this is true, statistics and surveys indicate that many more women, people of colour, seniors and individuals from marginalized groups are becoming increasingly active. 3 In addition, computers may become part of the standard household consumer package in the overdeveloped world, although studies are emerging that indicate that large numbers of individuals claim that they have no intention of purchasing computers and using the Internet. Yet in the light of the importance of computers for work, social life, entertainment and education, no doubt growing amounts of people will continue to go on-line. Further, there are plans afoot to wire the entire world with satellites that would make the Internet and new communication technologies accessible to people who do not now have a telephone, television or even electricity, and wireless, interactive technologies are touted as the next stage of networked communication. 4

However widespread and common computers and new technologies become, it is clear that they are of essential importance already for labor, politics, education and social life, and that people who want to participate in the public and cultural life of the future will need to have computer access and literacy. Although there is a real threat that the computerization
of society will intensify the current inequalities in relations of class, race and gender power, there is also the possibility that a democratized and computerized public sphere might provide opportunities to overcome these injustices. Cyberdemocracy and the Internet should be seen, therefore, as a contested terrain. Radical democratic activists should look to the Internet’s possibilities for resistance and the advancement of political education, action and organization, while engaging in struggles over the digital divide. Dominant corporate and state powers, as well as conservative and rightist groups, have been making sustained use of new technologies to advance their agendas. If forces struggling for democratization and social justice want to become players in the cultural and political battles of the future, they must devise ways to use new technologies to advance a radical democratic and ecological agenda and the interests of the oppressed.

There are by now copious examples of how the Internet and cyberdemocracy have been used within oppositional political movements. A large number of insurgent intellectuals are already making use of new technologies and public spheres in their political projects. The peasants and guerrilla armies who formed the Zapatista movement in Chiapas, Mexico, beginning in January 1994, used computer databases, guerrilla radio and other media forms to circulate their ideas and to promote their cause. Every manifesto, text and bulletin produced by the Zapatista Army of National Liberation, who occupied land in the southern Mexican state of Chiapas, was immediately circulated through the world via computer networks.

In January 1995, when the Mexican government attacked the Zapatistas, the latter used computer networks to inform and mobilize individuals and groups throughout the world to support them in their battle against repressive government action. There were many demonstrations in support of the rebels throughout the world. Prominent journalists, human rights observers and delegations traveled to Chiapas to demonstrate solidarity and to report on the uprising. The Mexican and US governments were bombarded with messages calling for negotiations rather than repression. The Mexican government was forced to back down and halt their repression of the insurgents. While carrying out various forms of subjugation, they continued to negotiate sporadically, with the post-2000 government of Vicente Fox continuing this pattern without resolution to the conflict.

Seeing the progressive potential of advanced communications technologies in revolutionary struggle, Frantz Fanon (1967) described the central role of the radio in the Algerian revolution, and Lenin stressed the importance of film in spreading communist ideology after the Bolshevik revolution. Audiotapes were used to advance the insurrection in Iran and to disseminate alternative information by political movements throughout the world (see Downing 2000). The Tiananmen Square democracy movement in China and various groups struggling against the remnants of Stalinism in the former communist bloc used computer bulletin boards and networks, as well as a variety of forms of communications, to project their movements. Anti-NAFTA groups made extensive use of the new communications technology (see Brenner 1994; Fredericks 1994). Such multinational networking and distribution of information failed to stop NAFTA, but created alliances useful for the politics of the future. As Nick Dyer-Witheford notes:

The anti-NAFTA coalitions, while mobilizing a depth of opposition entirely unexpected by capital, failed in their immediate objectives. But the transcontinental dialogues which emerged checked — though by no means eliminated — the chauvinist element in North American opposition to free trade. The movement created a powerful pedagogical crucible for cross-sectoral and cross-border organizing. And it opened pathways for future connections, including electronic ones, which were later effectively mobilized by the Zapatista uprising and in continuing initiatives against maquiladora exploitation. (1999: 156)

Thus, using new technologies to link information and practice and to advance oppositional politics is neither extraneous to political battles nor merely Utopian. Even if immediate gains are not won, often the information circulated or the alliances formed can have material effects. There are, moreover, striking examples of how Internet-centered organizing campaigns effectively worked against the institutions and corporations of capitalist globalization. Successful struggles against the Multilateral Agreement on Investment (MAI) in 1995—98 involved websites and e-mail campaigns against the US-supported effort to develop binding rules on how states treat foreign investors, and listservs linking the groups struggling against the ‘agreement’. Obviously, the Internet alone did not defeat this initiative for capitalist globalization, but it enabled the non-government organizations fighting against it to circulate information, share resources and link their struggles (see Smith and Smythe 2000).

There have been many campaigns against the excesses of capitalist global corporations such as Nike and McDonald’s. Hackers attacked Nike’s site in June 2000 and substituted a ‘global justice’ message for Nike’s corporate hype. Many anti-Nike websites and listservs have emerged, helping groups struggling against the global shoe and manufacturing corporation, which have forced Nike to modify its labor practices.

A British group that created an anti-McDonald’s website against the junk food corporation and then distributed the information through digital
On the whole, labor organizations, such as the North South Dignity of Labor group, note that computer networks are useful for organizing and distributing information, but cannot replace print media, which are more accessible to many of their members, face-to-face meetings and traditional forms of political action. Thus, the challenge is to articulate one's communications politics with actual movements and struggles so that cyberpolitics is an arm of real battles rather than their replacement or substitute. The most efficacious Internet projects have indeed intersected with activist movements encompassing campaigns to free political prisoners, boycotts of corporate projects, and various labor and even revolutionary struggles, as noted above.

The Global Movement against Capitalist Globalization

One of the more instructive examples of the use of the Internet to foster global struggles against the excesses of corporate capitalism occurred in the protests in Seattle and throughout the world against the World Trade Organization meeting in December 1999, and the subsequent emergence of a worldwide anti-globalization movement in 2000-01. Behind these actions was a global protest movement using the Internet to organize resistance to the institutions of capitalist globalization, while championing democratization. In the build-up to the 1999 Seattle demonstrations, many websites generated anti-WTO material and numerous mailing lists used the Internet to distribute critical material and to organize the protest. The result was the mobilization of caravans from throughout the United States to take protestors to Seattle, as well as contingents of activists throughout the world. Many of the protestors had never met and were recruited through the Internet. For the first time ever, labor, environmentalist, feminist, anticapitalist, animal rights, anarchist and other groups organized to protest aspects of globalization and to form new alliances and solidarities for future struggles. In addition, demonstrations took place throughout the world, and a proliferation of anti-WTO material against the extremely secret group spread throughout the Internet.  

Furthermore, the Internet provided critical coverage of the event, documentation of the various groups' protests, and debate over the WTO and globalization. Whereas the mainstream media presented the protests as 'antitrade', featured the incidents of anarchist violence against property, and minimized police brutality against demonstrators, the Internet provided pictures, eyewitness accounts, and reports of police viciousness and the generally peaceful and nonviolent nature of the protests. While the
mainstream media framed the Seattle anti-WTO activities negatively and privileged suspect spokespeople like Patrick Buchanan as critics of globalization, the Internet provided multiple representations of the demonstrations, advanced reflective discussion of the WTO and globalization, and presented a diversity of critical perspectives.

The Seattle protests had some immediate consequences. The day after the demonstrators made good on their promise to shut down the WTO negotiations, Bill Clinton gave a speech endorsing the concept of labor rights enforceable by trade sanctions, thus effectively making impossible any agreement during the Seattle meetings. In addition, at the World Economic Forum in Davos a month later there was much discussion of how concessions were necessary on labor and the environment if consensus over globalization and free trade were to be possible. Importantly, the issues of overcoming divisions between the information-rich and the information-poor, and improving the lot of the disenfranchised and oppressed, bringing these groups the benefits of globalization, were also seriously discussed at the meeting and in the media.

More important, many activists were energized by the new alliances, solidarities and militancy, and continued to cultivate an anti-globalization movement. The Seattle demonstrations were followed by April 2000 struggles in Washington, DC, to protest the World Bank and IMF, and later in the year against capitalist globalization in Prague and Melbourne; in April 2001 an extremely large and militant protest erupted against the Free Trade Area of the Americas summit in Quebec City, followed by spectacular and dramatic demonstrations in Genoa in July 2001. It was apparent that a new worldwide movement was in the making, capable of uniting diverse opponents of capitalist globalization throughout the world. The anticorporate globalization movement favored globalization from below, which would protect the environment, labor rights, national cultures, democratization and other goods from the ravages of an uncontrolled capitalist globalization (see Falk 1999; Brecher, Costello and Smith 2000a).

The movement against capitalist globalization used the Internet to organize mass demonstrations and to disseminate information to the world concerning the policies of the institutions of capitalist globalization. The events made clear that the protestors were not against globalization per se, but were against neoliberal globalization, opposing specific policies and institutions that produce intensified exploitation of labor, environmental devastation, growing divisions among social classes and the undermining of democracy. The emerging anti-globalization-from-above movements are locating these problems in the context of opposition to a restructuring of a neoliberal market capitalism on a worldwide basis for maximum profit with zero accountability. The anti-capitalist movements, by contrast, have made clear the need for democratization, regulation, rules and globalization in the interests of people and not profit.

The new movements against globalization from above have thus placed the issues of global justice, democracy and the environment squarely in the center of the political concerns of our time. Hence, whereas the mainstream media had failed to debate vigorously or even report on globalization until the recent past, and rarely, if ever, critically discussed the activities of the WTO, World Bank and IMF, there is now a widely circulating critical discourse and controversy regarding these institutions. Stung by criticisms, representatives of the World Bank, in particular, are pledging reform. Pressure is mounting concerning proper and improper roles for the major global institutions, highlighting their limitations and deficiencies, and the need for reforms like debt relief for overburdened developing countries to solve some of their fiscal and social problems.

Hence, to capital's globalization from above, cyberactivists have been attempting to carry out globalization from below, developing networks of solidarity and propagating oppositional ideas and movements throughout the planet. To the capitalist international of transnational corporate-led globalization, a Fifth International, to use Waterman's phrase (1992), of computer-mediated and popular-based activism is emerging that is qualitatively different from the party-based socialist and communist Internationals. Such networking links labor, feminist, ecological, peace and other anti-capitalist groups, providing the basis for a new politics of alliance and solidarity to overcome the limitations of postmodern identity politics (see Dyer-Witheford 1999; Burbach 2001).

**Technopolitics: A Contested Terrain**

A key to developing a robust technopolitics is articulation, the mediation of technopolitics with real problems and struggles, rather than self-contained reflections on the internal politics of the Internet. The Zapatista movement in Chiapas has been addressing problems of survival and transforming social, cultural, political and economic conditions, using new technologies as an instrument of political struggle. Likewise, the campaigns against major capitalist corporations and the institutions of corporate globalization are attempting to advance progressive political agendas and to engage key issues of the day.

The examples in this study suggest how technopolitics makes possible a refiguring of politics, a refocusing of politics on everyday life and using
the tools and techniques of new computer and communications technologies to expand the field and domain of politics. In this conjuncture, the ideas of Guy Debord and the Situationist International are especially relevant with their stress on the construction of situations, the use of technology, media of communication and cultural forms to promote a revolution of everyday life, and to increase the realm of freedom, community and empowerment. To some extent, the new technologies are revolutionary; they do constitute a revolution of everyday life, but it is often a revolution that promotes and disseminates the capitalist consumer society and involves new modes of fetishism, enslavement and domination, as yet but dimly perceived and undertheorized.

Clearly, right-wing and reactionary forces can and have used the Internet to promote their political agendas as well. In a short time, one can easily access an exotic witch's brew of websites maintained by the Ku Klux Klan and myriad neo-Nazi assemblages, including the Aryan Nation and various militia groups. Internet discussion lists also disperse these views and right-wing extremists are aggressively active on many computer forums, as well as radio programs and stations, public-access television programs, fax campaigns, video and even rock music productions. These organizations are hardly harmless, having carried out terrorism of various sorts extending from church burnings to the bombing of public buildings. Adopting quasi-Leninist discourse and tactics for ultra-right causes, these groups have been successful in recruiting working-class members devastated by the developments of global capitalism, which has resulted in widespread unemployment for traditional forms of industrial, agricultural and unskilled labor. Moreover, extremist websites have influenced alienated middle-class youth as well (a 1999 HBO documentary on Hate on the Internet provides a disturbing number of examples of how extremist websites influenced disaffected youth to commit hate crimes).

A recent twist in the saga of technopolitics, in fact, seems to be that alleged 'terrorist' groups are now increasingly using the Internet and websites to promote their causes. An article in the Los Angeles Times (8 February 2001) reports that groups like Hamas use their website to post reports of acts of terror against Israel, rather than calling newspapers or broadcasting outlets. A wide range of groups labeled as 'terrorist' reportedly use e-mail, list-servers and websites to further their struggles, causes including Hezbollah and Hamas, the Maoist group Sendero Luminoso in Peru, and a variety of other groups throughout Asia and elsewhere. The Tamil Tigers, for instance, a liberation movement in Sri Lanka, offers position papers, daily news and a free e-mail service. According to the Los Angeles Times, experts are still unclear 'whether the ability to communicate online worldwide is prompting an increase or a decrease in terrorist acts'.

Different political groups are in fact engaging in cyberwar as adjuncts of their political battles. Israeli hackers have repeatedly attacked the websites of Hezbollah, while pro-Palestine hackers have reportedly placed militant demands and slogans on the websites of Israel's army, foreign ministry and parliament. Likewise, Pakistani and Indian computer hackers have waged similar cyberbattles against opposing forces' websites in the bloody struggle over Kashmir; while rebel forces in the Philippines taunt government troops with cellphone calls and messages, and attack government websites.

Concluding Remarks

The Internet is thus a contested terrain, used by the left, right and center to advance their own agendas and interests. The political battles of the future may well be fought in the streets, factories, parliaments and other sites of past conflicts, but political struggle is now mediated by media, computer and information technologies, and increasingly will be so. Those interested in the politics and culture of the future should therefore be clear on the important role of computer-mediated technopolitics and act accordingly.

Active citizens thus need to acquire new forms of technological literacy to intervene in the new public spheres of the media and information society. In addition to traditional literacy skills centered upon reading, writing and speaking, engaged citizens and public intellectuals need to learn to use the new technologies to participate in democratic discussion and political struggle. Computer and digital technologies thus expand the field and capacities of the intellectual as well as the possibilities for political intervention. During the Age of Big Media, critical-oppositional intellectuals were by and large marginalized, unable to gain access to the major sites of mass communication. With the decentralization of the Internet, however, new possibilities for public intellectuals exist to reach broad audiences. It is therefore the responsibility of the active citizen to work creatively with these new technologies, as well as to analyze critically the diverse developments of the cyberspace. This requires dialectical thinking that discriminates between the benefits and the costs, the upsides and downsides, of new technologies and devising ways that the technological revolution can be used to promote positive values like education, democracy, enlightenment and ecology. Active citizens thus face new challenges, and the future of democracy depends in part on whether new technologies
will be used for domination or democratization, and whether each individual will sit on the sidelines or participate in the development of new democratic public spheres.

I have not discussed the ways that technopolitics could be used to struggle not only against capitalism, but for socialism. I would argue that socialist ideas are still relevant to the politics of the contemporary era and that in particular Karl Marx’s ideas, far from being obsolete, are still essential in developing critical theories of globalization, technology and capitalism in the current conjuncture (see Kellner 1995). It may be that only a socialist politics could overcome the digital divide, making accessible to all the benefits of the technological revolution. A socialist government could provide wireless communications in underdeveloped societies, making possible access to the Internet and use of new communications and information technology even to societies that are not yet wired, or whose telephone systems extend only to the privileged. Interestingly, citizens in societies like Korea, Japan and the Philippines make more extensive use of wireless communications than the US, with wireless messaging systems and Internet access made use of by the working classes as forms of popular communication.

This study has suggested that in the era of globalization and the Internet political struggles are at once local and global, that there are continuities and discontinuities with struggles and movements of the past, and that we can therefore continue to draw on the most progressive ideas of the modern tradition while also developing new concepts of politics and new strategies for social transformation. A revolution of the future needs to articulate models and ideals of a post-capitalist economy, a radical democratic polity, an egalitarian and socially just multicultural society, and diverse, free and open culture. Ideals of the past can and no doubt will enter into revolutionary thought of the future, but new ideals, values and forms of everyday life will no doubt emerge. The future of revolution is thus open and requires new theory and practice as well as appropriation of the best progressive heritages of the past.

Notes

1. This study and the concepts of globalization and technological revolution developed here are grounded in the studies of Best and Kellner 2001. By ‘revolution’, I am assuming a concept of fundamental economic, political, social and cultural transformation, such as was developed in the works of Herbert Marcuse. See Kellner 1984 and the six volumes of Marcuse collected and largely unpublished papers that I am publishing with Routledge.

2. In most parts of the world, individuals must pay telephone companies for each unit of time on the Internet, giving rise to movements for an affordable flat rate for monthly Internet access; for discussion of the access movement in Britain, promises from the telecommunications companies to provide a flat rate in the immediate future, and speculation that access still might not be affordable for many, see the dossier in the technology section of the Times (London), 12 December 1999.

3. In August 1999, a widely publicized US Department of Commerce report contended that the ‘digital divide’ between the information haves and have-nots was growing; by November, there were critiques that the survey data were severely out of date and that more reliable statistics indicated that the divide was lessening, that more women, people of color and seniors were connected to the Internet, and that more than half of the United States was connected by late 1999. In 2000, several surveys indicated that the digital divide was mainly structured by class and education, and not by race. One should, however, be suspicious of statistics concerning Internet access and use, as powerful interests are involved that manipulate figures for their own purposes. Yet there is no doubt that a ‘digital divide’ exists and that various politicians, groups and corporations are exploiting this problem for their own interests.

4. On the growth of wireless, see the discussion in Best and Kellner 2001. It was announced in April 1997 that Boeing Aircraft had joined Bill Gates in investing in a satellite communications company, Teledesic, which planned to send up 288 small low-orbit satellites to cover most of the Americas and then the world by 2002. This project could give up to 20 million people satellite Internet access at a given moment, see US Today, 30 April 1997. In May 1998, Motorola joined the ‘Internet in the Sky’ project, scrapping its own $12.9 billion plan to build a satellite network capable of delivering high-speed data-communications anywhere on the planet and instead joined the Teledesic project, pushing aside Boeing to become Teledesic’s prime contractor (New York Times, 22 May 1998). An ‘Internet-in-the-Sky’ would make possible access to new technologies for groups and regions that do not even have telephones, thus expanding the potential for democratic and progressive uses of new technologies. On the other hand, there are reports that the corporations proposing such projects are not pursuing them and thus, once again, state intervention may be necessary to develop progressive technologies that will serve all.


6. In early 1998, however, Zapatista supporters were murdered by local death squads - which once again triggered significant Internet-generated pressures on the Mexican government to prosecute the perpetrators. Likewise, there has been ongoing government repression and sporadic violence, although, so far, the kind of massive repression of the movement favored by many in the Mexican military and political establishment has been avoided. I should also mention here the in credibly conflicting interpretations of the Zapatista movement by its supporters and detractors, and the problem that it has been given iconic significance, with all the attendant mythologization, in the contemporary era. For my purposes, it represents a strong example of how new technologies can be used as an arm of political struggle and how computer-mediated technologies can help generate global
support networks and circulate information of revolutionary struggles and movements.

7. For an overview of Nike, see Goldman and Papson 1998. For a dossier of material assembled on Nike's labor practices and campaigns against them, see the highly impressive website constructed by David M. Boje (cbae.mnsu.edu/~davidboje/nike/nikemain.html).

8. For an overview of the use of electronic communications technology by labor, see the studies by Waterman 1990, 1992; Brecher and Costello 1998; Dyer-Witheford 1999; Drew 1999. Labor projects using the new technologies include the US-based Labornet, the European Geonet, the Canadian LaborL, the South African WorkNet, the Asia Labour Monitor Resource Centre, Mujer a Mujer (representing Latina women's groups), and the Third World Network, while PeaceNet in the United States is devoted to a variety of progressive peace and justice issues.

9. As a 1 December 1999 abcnews.com story titled 'Networked Protests' put it: disparate groups from the Direct Action Network to the AFL-CIO to various environmental and human rights groups have organized rallies and protests online, allowing for a global reach that would have been unthinkable just five years ago.

As early as March, activists were hitting the news groups and list-serves -strings of e-mail messages people use as a kind of long-term chat — to organize protests and rallies. In addition, while the organizers demanded that the protesters agree not to engage in violent action, there was one website that urged WTO protesters to help tie up the WTO's web servers, and another group produced an anti-WTO website that replicated the look of the official site (see RTMark's website, http://gatt.org/; the same group had produced a replica of George W. Bush's site with satirical and critical material, winning the wrath of the Bush campaign). For compelling accounts of the and-WTO demonstrations in Seattle and an acute analysis of the issues involved, see the documents collected in Danaher and Burbach 2000; and Cockburn, St. Clair and Sekula 2000. See Smith and Smythe 2001 for detailed analysis of the use of the Internet in the anti-WTO demonstrations; they located 4,089 websites with material specific to the Seattle WTO meetings and selected 513 to examine and classify.

10. For further examples of how the Internet is being used in the US in a variety of social movements, see Kellner 1998; on some of the ways that citizens are participating in cyberpolitics in the US, see Hill and Hughes 1998. For the new forms of multiliteracy needed to use the new technologies for education, communication and politics, see Kellner 1998, 2000.