ESSAY QUESTION:

To what extent might ideas that cyberspace is (or will be) characterised by new forms of democracy and virtual community be said to be dependent on old models of technological determinism?

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In these heady, buzzword-filled days of 'online democracy,' 'user-generated content,' and 'collective intelligence' on the Internet, and in a time of online acquisitions where Yahoo.com purchases photo sharing website Flickr.com, Rupert Murdoch's News Corp. spends $580 million for social networking website MySpace (Yadav), and Web giant Google acquires video sharing site YouTube for $1.6 billion in stock (Yadav), we are once again confronted with all manner of utopian rhetoric in relation to the perceived emancipatory and democratising effects of technology upon the world. In the decentralised networks of open and free information on the Web, we are told, individuals and communities will be freed from the various tyrannies of power, violence, geography, oppression, and miscommunication that have plagued humankind throughout history. Pundits and politicians, press and professors alike wax glowingly about the social and cultural possibilities presented by new Web technologies; possibilities that include the transformation of time and space, new participatory politics (Robins 21), a more fair distribution of wealth, groundbreaking pedagogical methods (Negroponte 198), a "dimension that will enable us to escape the vortex of capital" (Lévy 138), citizen journalism, empowered communities, virtual bodies, et. al. Erik Davis describes this sort of unbridled technocratic optimism as 'mythinformation,' "the notion that communication systems, databases, software, and complex technical organizations are in themselves avatars of the Good" (86). However, the exaltation of technology to this sort of mythological – and perhaps magical – state is not unique to the relatively recent development of the Internet and computerised information technologies. Rather, deterministic reflections on technological change have been occurring for many years. In this essay, I hope to examine and illustrate the ways in which current utopian discourses of digitally-induced democracy, community, participation, and emancipation actually mirror earlier technological homilies, and then look at possibilities for demythologising the realm of cyberspace.

Technological determinism, as explained by Raymond Williams in *Television: Technology and Cultural Form*, is a belief that new technologies are discovered and then determine the path for social and cultural change (13). In this view, technologies become a natural catalyst for 'progress' and bring about effects in society whether we like it or not. Williams speaks thusly in regard to these changes: "The effects of the technologies, whether direct or indirect, foreseen or unforeseen, are as it were the rest of history. The steam engine, the automobile, television, the atomic bomb, have *made* modern man and the modern condition" (13). Determinists understand new technologies as a natural force of progression, structures of organisation and production which sweep humanity along into new forms of living and understanding. This idea of technology as a 'natural' force is a theme that one repeatedly encounters when enquiring into the history of technological change, as we will shortly discover. To provide a background from which to build a proper analysis of current deterministic thought, however, it might be useful to follow the technological trail of the Web back to its popular emergence in the early-to-mid-1990s and to consider the utopian language of its various proponents at that time.

The World Wide Web and the origins of digital determinism

When Tim Berners-Lee, a scientist working at CERN in Geneva, initially released the software protocols of the world wide Web in 1991, his goal was to provide people with a more simple way to create and access information through a global, computerised communication network (Curran 240). While not exactly a techno-utopian in the magical sense of the word, Berners-Lee did approach this new invention from an optimistic, public service-based standpoint – he wanted the Web to be a 'universal medium for sharing information', a system rooted in open access, governed by public entities rather than private corporate interests, and committed to the decentralisation of communication flows (Curran 247). These sorts of ideals were best represented in the earliest days of the Web (from

about 1991-1994), when most Web users were still academics, hackers and geeks, artists, and activists. Erik Davis and James Curran both write about the influence of 1980s American counter-culture on the early Web as hippies, communitarians, and radicals alike used electronic networks as a way to build alternative communities and resist the dominance of American capitalism (Curran 246). These types of groups saw grass-roots democratic potential in the information sharing capacity of the Web, and their presence was influential to the early development of the World Wide Web (Davis 168). Despite the strong Web presence of these radical groups and Berners-Lee's founding values of openness and publicness, however, it didn't take long for commercial interests to come knocking upon the digital door. The 1993 release of browser Netscape Navigator helped to enable commercialisation and popularisation of the Web by allowing for use of colour images and more creative layouts on Web pages (Curran 248). 1993 also saw the first issue of *Wired Magazine*, the "*Rolling Stone* of the information age" (Davis 169), a publication that devoted its pages to cyber-libertarianism, hip new gadgets, and a deep belief that digital technology is the next step in human evolution in which our minds are freed of the shackles of bodies and matter and set loose in the turbulent, viral networks of virtual information space. We'll return to the ideology of *Wired* several times throughout this enquiry, as the magazine has been a catalyst for much deterministic thought regarding the effects of technology upon society and the individual.

During the mid-90s, commercialisation of the Web continued at a rapid pace. Much of this commercialisation was couched in the same optimistic language as that used by early Web activists – open access to information, decentralisation, community building, economic freedom, and online education. Nicholas Negroponte and Bill Gates in particular were – and still are – two highly optimistic proponents of the new "Information Economy."

Negroponte, founder of the Media Lab at MIT, former *Wired* columnist, and currently head of the *One Laptop Per Child*[1] project, is an exceptional example of a digital determinist. His 1995 book *Being Digital* is filled with visionary prophecies of digital transcendence and technological hyperbole. We're "beyond demographics" (163), gadgets will take on "digital personas" (218), consumers will 'pull' content rather than having information and entertainment 'pushed' to them by media companies (83), geographical and social barriers between individuals will break down in the immediacy of digital networks (228), disabled children and youth with different cognitive styles will be better educated with digital tools (198), and the decentralised nature of the Internet will help to fight against censorship (158). He also frequently refers to the 'natural' forces of technology that shape progress and society: "Like a force of nature, the digital age cannot be denied or stopped" (229), "Digital technology can be a natural force drawing people into greater world harmony" (230). Negroponte avoids any position of criticality with regard to this stance, wholeheartedly embracing almost all ideas of technological social change. The few concerns that he does address in a space of two pages involve issues of digital privacy, piracy of content, and the continued loss of jobs to automated systems of production (227). After skipping quickly over those issues, Negroponte returns to his hyper-optimistic vision of the digital future – "We are not waiting on any intervention. It is here. It is now. It is almost genetic in its nature, in that each generation will become more digital than the preceding one" (231).

Microsoft founder Bill Gates has a corresponding vision of this sort of digital utopia. Referring to many of the same concepts as Negroponte, in *The Road Ahead* (also published in 1995), Gates paints a sunny picture of the emancipatory and social possibilities presented by interactive networks. For instance, he describes a 'friction-free capitalism'

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[1] One Laptop Per Child, or OLPC, is a non-profit project established by Negroponte to provide children in developing countries with inexpensive laptop computers for educational purposes (http://www.laptop.org/vision/mission/)

that will develop on the Web by eliminating the middleman between buyer and seller (181), better education for children through interactive computing (208), the personal, social and economic flexibility presented by digital archiving of all documents and information (130), and smart appliances that will automatically detect our needs and preferences and respond in kind (102). In addition to providing very similar examples of how technology will improve our lives, both Gates and Negroponte use evolutionary terms to describe the inevitability of technological progress. As Gates writes, "We don't have the option of turning away from the future...I believe that because progress will come no matter what, we need to make the best of it – not try to forestall it" (11).

But despite this lofty rhetoric of the 'new' and of the saving power of 'technological progress,' neither pundits' words are actually very imaginative or groundbreaking. In fact, there's myriad examples of similar predictions being made throughout history as new technologies are introduced into the public realm, whether it's the telegraph or the television, the railroad or the radio. In Vincent Mosco's *The Digital Sublime*, he critically explores the comparable ways in which new technologies are mythologised and imbued with a feeling of transcendence by their creators and proponents. For example, the telegraph and the telephone were initially viewed with reverence as devices that would break down class, social and geographic boundaries by going beyond the limits of space and symbolic social symbols such as expensive clothing or formal rituals (127). Following shortly after the telephone, we see reactions of awe to the 'miraculous' new invention of radio which, by allowing 'direct connections' between listener and broadcaster, would 'dispense with political middlemen' and bring about more direct democracy, world peace, and the brotherhood of mankind (129). Radio would be a revolutionary 'autonomous force' in society and culture, reshaping life and empowering the youth of America, who were best placed to take advantage of this technology (130). Mosco talks about the 'Radio Boys', appearing in various fictional accounts of heroic exploits, as being representative of an obsession

with youth in utopian technological discourse. Correspondingly, Negroponte also refers to young people in this context: "The control bits of that digital future are more than ever before in the hands of the young" (231).

In *Techgnosis*, a work with an analysis similar to *The Digital Sublime*, Erik Davis discusses the relationship between new technologies and 'myth, magic and mysticism'. By using the Gnostic dualism between spirit and matter as a theoretical framework, Davis exposes the various ways in which technologists throughout the ages have sought to mysticise technology as a spiritual concept, a (meta)physical tool for reaching out of our bodies and forming magical and natural connections to new forms of being. David provides an example of this technological mysticism in Nikola Tesla, the famed scientist who invented AC electricity, the induction motor, and fluorescent lighting, and who laid claim to over 700 patents on electrical devices by the time of his death in 1943 (Davis 69), believed that wireless electricity would be able to produce solutions to many social problems:

> "Like many techno-utopians today, Tesla held the curious belief that *technical* solutions to the problem of global communication would magically dissolve the social and political antagonisms that beset humankind. When Tesla wrote that "Peace can only come as a natural consequence of universal enlightenment," he was not just calling for the global imposition of modern cultural values about reason and progress. He was also suggesting that this "universal enlightenment" could be encarnated in the all-pervading waves of the wireless, just as today's Internet boosters believe that the decentralized stucture of the Net will automatically instill the information age with a democratic and participatory politics." (72)

Like Tesla almost 100 years before them, Negroponte ("Digital technology can be a natural force drawing people into greater world harmony") and many other current determinists believe in a natural, transcending power that lies within the technological. New

technologies have become like new gods for the post-Nietzschean era – we just need to 'have faith' and they will provide peace, justice, wealth, and global cohesion. But determinism is certainly not without its critics. As we will read below, there's a constant war of words among the technological optimists, the pessimists, and occasionally, those sitting somewhere in-between.

Critiquing Wired 1.0

In August, 1995, Richard Barbrook and Andy Cameron of the Hypermedia Research Centre at the University of Westminster, London, published *The Californian Ideology*, a scathing critique of what they perceived to be a location-specific rise in an ideology of libertarian technological determinism among the high-tech denizens of the Bay Area's 'virtual class.' According to Barbrook and Cameron's essay, this weird and "contradictory mix of technological determinism and libertarian individualism" was well on its way to becoming "the hybrid orthodoxy of the information age," and that this bizarre technological coupling of radical hippie idealism with right-wing, laissez-faire capitalism would quickly lead to dire consequences – social and racial polarisation in the processes of production, access to information, and political empowerment, further class tension and segregation, and environmental degradation. In an attempt to provide an alternative, more 'European' approach to new information and communication technologies (ICTs), Barbrook and Cameron suggest a state-centric procedure in which the EU and its members could provide a broadband connection to every citizen at a cheap price in order to avoid issues of exclusion, that of the 'information haves' and 'information have-nots', more commonly known now as the 'digital divide.' They also propose that "these innovative forms of knowledge and communications will sample the achievements of others, including some aspects of the Californian Ideology. It is now impossible for any serious movement for social emancipation not to include demands for feminism, drug culture, gay lib-

eration, ethnic identity and other issues pioneered by West Coast radicals" (Barbrook). By fusing these radical social demands with state-backed broadband access, Barbrook and Cameron hoped to create a collective system of digital content creation and distribution open to all: "Unlike the elitism of the Californian Ideology, the European artist-engineers must construct a cyberspace which is inclusive and universal" (Barbrook). Not surprisingly, the backlash from the American high-tech community to *The Californian Ideology* was swift. In a particularly vitriolic and defensive response by Louis Rossetto, former editor of *Wired Magazine*, he refers to the essay's content as "stupid", "smug" and "laughable" and repeats the ideology of *Wired*'s futurist mantra: "...it's time to encourage competition, risk taking, democracy and meritocracy, and dare I say it, dreaming about a different, better future" (Rossetto).

While I find Barbrook and Cameron's essay to be problematic in the sense that they establish a binary between a capitalistic, American-style Web on one side and a state-funded, European-style Web on the other (and Rossetto repeats this mistake in his response by accusing them of providing 19th century European-style 'nostrums' to 21st century 'problems'), the piece represents an important critical juncture in the history of the Internet, one which warns of an overly commercialised Web which privileges the logic of libertarian, market-based capitalism over Tim Berners-Lee's original goal of an open, public space of information and knowledge. *Wired Magazine*, however, continued on their metaphysical quest to propagate digital determinism throughout the world and in October 1996, released the *Wired Manifesto*. The manifesto articulates *Wired's* take on the new forms of digital technology, and how these technologies can (and will) change society for the better. The introduction to the manifesto is worth quoting at length:

> "The digital revolution that is sweeping the world is actually a communications revolution which is transforming society. When used by people and communities

> who understand it, digital technology allows information to be transmitted and transmuted in fundamentally limitless ways. This ability is the basis of economic success around the world.
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> "But it offers more than that. It offers the priceless intangibles of friendship, community and understanding. It offers a new democracy dominated neither by the vested interests of political parties nor the mob's baying howl. It can narrow the gap that separates capital from labour; it can deepen the bonds between the people and the planet. These truths are being embraced, regardless of political prattling, by a new, global generation. Any agenda for the future must understand and incorporate these new truths." ("The Wired Manifesto")

Here again, we see Tesla-like hyperbole which is absolutely convinced of the deep transcendent power of the technological. While it's not all flowery bombast – the manifesto does make some reasonable requests for transparency in government, for citizens becoming more active in processes of politics and governance, for privacy of data, and for freedom of speech and thought – the manifesto set the deterministic libertarian agenda for *Wired* and for much subsequent Web ideology: the market is good, government is bad; new media is good, old media is bad. However, free markets and 'new' media often have the same tendency toward control and centralisation of information as governments – even on the Internet – as we will presently discover by looking at the current state of the World Wide Web.

'Web 2.0' – Rising from the fragments of the dot com bubble

In the late 1990s, the technological promise of the Internet craze had gripped the stock market, with venture capitalists and investors pouring millions of dollars into new 'dotcom' start up businesses. Stock prices for Internet businesses skyrocketed and many young Web entrepreneurs became millionaires almost overnight. Y2K worries aside, the

mood at the turn of the millennium amongst the technorati was celebratory and optimistic – the Web truly could recreate the social and economic spheres! Yet, there were dark days on the horizon for these celebrants of the 'new economy.' In April, 2000, the supremely overvalued stocks suddenly crashed (or the 'bubble burst'), all but destroying the nascent dotcom industry and leaving many tech workers unemployed (Mosco 141). As Mosco succinctly describes, there was a sort of 'historical amnesia' in the hype surrounding the mythic expectations of cyberspace in which people forgot about the unfulfilled promises of previous communication technologies (140). Unfortunately, seven years on from the dotcom collapse and over ten years since the *Wired Manifesto* was published, we currently seem to be seeing the same pattern of technological determinism, optimism, and amnesia happening again, this time under the guise of 'Web 2.0'.

In 2004, computer book publisher and conference organiser Tim O'Reilly coined the term 'Web 2.0' to describe a conceptual framework of new Web technologies and emerging patterns of Web use and behaviour. In O'Reilly's definition, Web 2.0 utilises online applications and server technologies to provide new services and experiences for Web users – services based on collaboration, user-created content, social networking, collective intelligence, interoperability of data, and rich user experiences (O'Reilly). Sites often provided as successful examples of Web 2.0 communities include the aforementioned YouTube.com, Flickr.com and MySpace.com, collaborative encyclopaedia Wikipedia.org, Google Maps (and indeed, Google's entire suite of free online applications located at http://www.google.com/a/), social linking site Digg.com, and social networking site Facebook.com (Yavek). All of these sites allow users to create and upload their own content, create groups, share data, leave feedback in the form of comments and forums, and annotate and tag content for purposes of searchability. Unsurprisingly, the media world is abuzz with descriptions of the new communities that are forming around these sites and the ways in which these 'social technologies' will break down social and geographic barri-

ers and lead to further democratisation of the public sphere. A particularly rapturous Newsweek article entitled "The New Wisdom of the Web" expounds happily about the 'wisdom of crowds' in the new 'living Web' (Levy 2); MySpace is lauded by the BBC for decentralising the means of music production and distribution, letting bands bypass major labels in favour of self-distribution and promotion (Cieslak) (as if independent bands and musicians couldn't do this before MySpace); mobile media such as mobile phone cameras allow 'citizen journalists' to capture events as they happen and upload them to the Web instantaneously; political bloggers expose corrupt politicians to widespread scrutiny...what's not to love about Web 2.0? Perhaps we've finally reached the digital sublime, the place where technology intersects with humanity to produce an open and democratic system of networks where individuals and communities are empowered and emboldened with a sense of global harmony? *Wired* writer Jennifer Granick certainly thinks so:

> "Though it may not be obvious, the road marks in this amorphous thing called Web 2.0 are political: grassroots participation, forging new connections, and empowering from the ground up. The ideal democratic process is participatory and the Web 2.0 phenomenon is about democratizing digital technology."

I find myself in disagreement with Granick and the techno-libertarian ideology of *Wired* and Web 2.0 in general. I would argue that the utopian, participatory rhetoric of the current 'Web 2.0' movement actually works to mask the hidden processes of control, capital and centralisation that are operating behind the attractive veneer of most 'social networking' communities and websites. Most 'for-profit' websites depend on advertising to generate revenue and they rely heavily on the ability to monitor and control the content and actions of their users in order to more efficiently target advertisements. In this sense, the 'new media' space of Web 2.0 reflects very traditional media methods of providing con-

tent and making money: just as in television, print, and radio, advertisers pay for ad space in order to target potential consumers. In fact, many social networking sites may represent an even more nefarious example of marketing of the individual than previous communication media. These sorts of sites don't simply rely on user content to attract eyeballs to advertising, they also have an unprecedented amount of demographic information logged in databases through which user data may be aggregated, sorted, and commodified according to the desires and tastes of advertisers and marketers. Many social networking sites also take ownership of any content such as videos, text, and images that are uploaded by users. The entirety of each user's information has the potential to be used as commodity by the owners and marketing partners of the site. Using MySpace as an example, we can see the various ways in which social networking sites can control and commodify the individual.

With somewhere in-between 100 and 150 million users, MySpace.com is by far the largest of the new social networking sites (Yadav). As previously mentioned, MySpace is also owned by conservative media magnate Rupert Murdoch's News Corp., which has a large commercial interest in collecting valuable demographic information about MySpace's millions of culturally diverse and Web-savvy users. As Murdoch himself hopes, "We think we can extend MySpace around the world and it can be a major force globally" (Sellers). In this global online community, individuals use MySpace to create personal profiles, upload photos and videos, connect to and stay in touch with old and new 'friends', write blog posts, and join groups and communities of people with shared interests. Many bands and musicians also maintain MySpace profiles where people can listen to and purchase songs, watch music videos, leave comments, and contact fellow fans. Behind the scenes, however, MySpace collects information about every member and every visitor to these pages, as we can determine from their privacy page[2]. The site logs each

[2] located at http://www.myspace.com/Modules/Common/Pages/Privacy.aspx

user's IP address (a unique number which identifies each computer connected to the site, similar to a street address for a house), user profile information, 'aggregate user data', and browser type. MySpace and its advertisers also set 'cookies' on user's computers in order to "allow the ad server to recognize your computer each time they send you an online advertisement. In this way, ad servers may compile information about where you, or others who are using your computer, saw their advertisements and determine which ads are clicked on. This information allows an ad network to deliver targeted advertisements that they believe will be of most interest to you." While MySpace and other social networks may indeed provide online community and ways for people to connect, stay in touch, and share creative content, it comes at the price of turning this information into commodity for the benefit of increasingly centralised media institutions. In Fred Scharmen's excellent essay "'You must be logged in to do that!' : MySpace and Control", he analyses MySpace and other Web 2.0 sites in the context of the breakdown of systems of spatial enclosure, the Deleuzian concept that traditional enclosures of power such as schools, prisons, hospitals, and factories are less powerful than newer, non-spatial instruments of informational power:

> "One does not escape the physical body into a noncorporeal cyberspace as a jailed man escapes from a prison into the wide world. If a body is recomposed as information, it is all the more subject to the specialized techniques of control: distributed surveillance, data aggregation, and the continuous modulation of production and access."

Here again we see claims for the utopian 'democratising' force of the social Web deconstructed by enquiries into the systems of informational power which hold sway over many social networking and online community websites. Rather than experiencing freedom online, we encounter an even tighter regimen of surveillance and control than we do offline.

Optimism, pessimism, or somewhere in-between?

Thus far, we've explored various ways in which deterministic mythologies are constructed around digital technology throughout the history of the World Wide Web and how they closely reproduce similar claims in regard to earlier technological developments in the 19th and 20th centuries. We've also taken a look at the processes by which power can be exercised in the realm of social networking and so-called 'Web 2.0' community websites. It's clear that the utopian language of techno-futurists such as Nicholas Negroponte and *Wired Magazine* is deeply flawed in their oversimplified and optimistic predictions of the harmonising and democratising power of digital technology. However, should this be a reason to become completely pessimistic in regard to critical possibilities on the Web? Self-admitted technological pessimists Kevin Robins and Frank Webster certainly think so. Their book *Times of the Technoculture* provides an extraordinarily well-written and researched critique of technocratic optimism in contemporary society. In opposition to the "ordering logic of technological rationalisation" (259), Robins and Webster propose a sort of radical urbanity in which the complexities and disorder of everyday urban encounters can reshape and construct new experiences and identities. Although I find their analysis to be useful in understanding many of the negative aspects of the modern technological mindset, their critique is also somewhat limited in the sense that they establish a strict dualism between "Real" and "Virtual" realms and that they discount any possibility of agency or resistance through digital means. They claim that autonomy has become totally neutralised by the Western technocultural project and that online community is only about pleasure and the illusion of consensus: "virtual politics: a politics without power, a politics without antagonism, a politics without people. This is no politics at all" (Robins 232).

Contrary to Robins and Webster, I believe that it's possible to occupy a reasonable, non-totalising position regarding the Web that is neither deterministic nor dystopian, neither overly optimistic nor deeply pessimistic. Just as we may find spaces of resistance, reinterpretation and play within earlier communication technologies such as radio, television, and print, the Internet also remains a contested space where we may find critical engagement with dominant discourses of capital, power and control. Creative hackers, conscious individuals and progressive groups have all used and continue to employ the communication channels provided by the Internet to aid in organisation, strategy development, and information creation and dissemination (Curran 271). To provide a few examples, the grassroots Independent Media Center[3] played an important part in organising and providing coverage of the 1999 WTO protests in Seattle and has since grown into an autonomous network of independent media centers around the world. The Free and Libre Open Source Software movement (FLOSS) provides a collective, free method to coding and distributing software in opposition to the restricted, expensive software created by commercial interests such as Microsoft and Adobe. The Yes Men[4], an anti-corporate performance group, use the Web to document their latest activities, distribute media and communicate with supporters. Many other organisations and grassroots groups also engage with critical issues in realms both on and offline without essentialising or mythologising technology, such as the Space Hijackers[5], Mute Magazine[6], the Open Rights Group[7], the Open Knowledge Foundation[8], Adbusters[9], and the Billboard Liberation

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[3] http://www.indymedia.org

[4] http://www.theyesmen.org/

[5] http://www.spacehijackers.co.uk/

[6] http://www.metamute.org/

[7] http://www.openrightsgroup.org/

[8] http://www.okfn.org/

[9] http://www.adbusters.org

Front[10]. Perhaps, as Mosco notes, the real power of new technologies starts to appear when they lose their mythic force and become banalised, part of everyday life. My concern is that as the Web becomes banal, it will also become more deeply commercialised – although, as Fred Scharmen suggests, there are also spaces of resistance to be found within purely commercial space:

> "The transformation of the internet from utopian academic cyberspace to the monetized space of online commerce is analogous, in real life, to the transformation of the civic realm into the privately-owned-public-space of shopping...Once offline space is recognized as a social product, then there can be protest to accompany the shopping, and graffiti to accompany the billboards. Once online space becomes a user-produced social product, there can be parody and protest sites like www.walmartsucks.org, and users can appropriate and remix songs, movies, and other media for themselves and their friends."

While the process of banalisation will arguably lead to further commodification of the Web in terms of commerce and economic centralisation, I agree with Scharmen that people will continue to use the Web as a space of conscious organisation, protest and resistance. By adopting a reasonably sceptical yet informed stance toward new communication technologies such as the World Wide Web, I believe that we can begin to demythologise the deterministic discourses of the techno-utopians and articulate a critical response rooted both in critical theory *and* in creative (re)use of these new technologies.

Word Count: 5,045

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[10] http://www.billboardliberation.com/

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