Analytical Note: Horizontal Communication and Social Movements

February 2006
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OUTLINE

Abstract

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Abstract:

The following brief provides an overview of new tools and practices of horizontal communication, as deployed by social movements in the United States, in other countries, and across borders. In the first section, I briefly clarify my use of the terms horizontal communication and social movements, then discuss the continued asymmetry of access to communication tools and skills within and between social movement organizations. In the second section, Tools and Practices, I emphasize the multimodality (cross-media use) of social movement communication, then examine new developments in social movement use of audio, video, mobile, and social software, placing each within a longer history. In the third section, Circulation, I explore some of the ways that new tools and practices circulate through networked movements. Key actors, the space of places, the space of flows, and code for struggle all transmit communication tools and skills throughout the networked movements. I draw examples from instances where horizontal communication directly challenges control by dominant state and private actors over the content, mechanisms and technologies of communication, and inserts itself into mass media circulation; in other words, recent moments when social movements using horizontal communication tools have made visible impacts on national or supranational politics and policies.

INTRODUCTION

The purpose of these notes is to discuss existing dynamics and techniques of horizontal communication, as embedded in increasingly globalized social movements. In the following pages, I will highlight some of the tools, practices, networks, and nodes, methods of diffusion, and recent moments of broad impact of social movement-based horizontal communication. I begin by clarifying two terms that are critical for the purpose of these pages: *horizontal communication* and *social movements*.

Horizontal Communication

The term horizontal communication is used here to indicate an ideal-type of communication that exhibits, as far as possible, the following characteristics: tools of production that are inexpensive and widely available, rather than concentrated in a few hands; circulation that is many-to-many rather than one-to-many; content selection and filtering that is performed socially or by transparently delegated editors rather than by professionals or elites; decision making that is participatory and consensus based rather than compulsory and hierarchical.

Communication scholars have proposed several terms that cover similar ground, including alternative media,[1] citizen's media,[2] radical media,[3] and others.[4] I use the term horizontal communication here in order to demarcate particular forms of social relations of technology use, and to differentiate the tools and practices I am describing from those based upon *vertical* or top-down forms of communication. This differentiation is based on the structure of participation in producing and circulating communicative texts, rather than on either the tool that is being used, or the group that is producing the communication. Both horizontal and vertical forms of communication can be, and historically have been, used by many different kinds of organizations, movements, parties, firms, and so on, from the individual level, to local groups, to nation states and transnational institutions. In addition, any of the tools that I describe here either have been or could be adapted and used for either horizontal or vertical communication. For example, although in many ways the web tends to enable horizontality, the flow of information through social movement websites is often vertical. Many such sites are little more than online versions of traditional party organs, with a small handful of writers and an even smaller number of editors who make all publishing decisions. By contrast, I will specifically focus here on communication that is self-consciously organized horizontally from the bottom up.

Social Movements

The operative definition of social movements in this paper is that offered by Castells: *"purposive collective actions whose outcome, in victory as in defeat, transforms the values and institutions of society.*[5]

Theories of resource mobilization and political opportunity structure that emphasize political economy as the key site for understanding movement activity once dominated the

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1 Atton (2002).
2 Rodriguez (2001).
3 Downing (2001).
4 For a discussion of horizontal vs. vertical communication strategies of Western European MPs, see Cardoso, Cunha, et. al. (2004).
5 Castells (1997)

academic study of social movements. Now, identity formation is also widely recognized in the field of social movement studies as a key component of movement building.[6] Although still somewhat understudied in the academy, a growing body of work theorizes and documents the critical role that social movement media play in identity formation.[7] Tarrow, among others, argues that movements deploy horizontal communication to develop new forms of networked identity that differ from traditional group identity, drawing on the Zapatista success in deploying networked communication to mobilize transnational solidarity.[8] There is, however, little comparative data that assesses the degree to which strong movements produce a vibrant field of horizontal communication, versus the degree to which powerful movement media strengthens movement identity and draws in new activists. This debate over causal direction is not central to this discussion. Instead, I begin from the assumption that movement media is produced within social movements, and that in general we can say that the quantity, quality, and circulation of movement media increases when movements are strong and decreases when they are weak.

Further, I emphasize that the globalization of social movement activity includes increased incorporation of horizontal communication tools and skills by many movements. To some degree, social movement adoption of horizontal communication has been an intentional decision. This is true, for example, of the anticorporate globalization movement, which has made it a strategic and tactical priority to adopt decentralization and networked forms of organization as far as possible, and has constantly remained on the edge of innovation, adopting and reconfiguring new media tools and skills.[9] I will return to the question of how horizontal tools and skills circulate through the movements below.

Access

Careful theorists of globalization tend to avoid claims about the radical 'newness' of social movement communication via the Internet, while also avoiding the cynically conservative position that 'nothing is new under the sun.'[10] Social movements have a long history of forging global links; the early feminist movement, workers' movements, the antislavery movement, and others were linked intercontinentally one, two, three, and even four hundred years ago.[11] However, it is also true that the rate, intensity, and velocity of transnational social movement linkages have increased with innovations in telecommunications technology, and that such linkages have dramatically increased with the arrival of the Internet.[12]

Growing numbers of people everywhere, including social movement participants and organizations, have access to advanced communication tools and skills, including (but not limited to) the Internet. Increasingly, people use the net as a regular source of information, and use it to seek out alternative media.[13] An October 2004 study by Pew found that the number of people in the United States getting their news online had risen steadily between March of 2000 and May of 2004.[14] More interesting in the context of this note's topic is the data on how many

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6   Castells (1997); McAdam, Tarrow, and Tilly (2001).
7   Downing (2001).
8   Russell (2005); Langman (2005).
9   Juris (2005).
10 "Globalization" here follows Castells' (1997) use of the term to describe the increased flows of goods, services, information, capital, and people throughout the globe.
11 James (1963); Gilroy (1993); Keck and Sikkink (1998).
12 Keck and Sikkink (1998).
13 But see Appendix, Figure 3 for an overview of the US population's primary news sources, still dominated by television.
14 Counter to the argument that the shift to online news gathering is leading to a Balkanization of public

people reported using the net to get news from 'alternative' news sites:

Figure 1

The kinds of Web sites people use to get political news and information	Broadband users	Dial-up users
Web site of major news organizations, such as CNN.com	72%	51%
Web site of an international news site such as al Jazeera	24	14
Web site of alternative news site like AlterNet.org or NewsMax.com	16	7
Web site of politically liberal group such as People for the American Way or MoveOn.org	15	7
JohnKerry.com, the Democratic nominee's official site	14	8
GeorgeWBush.com, the president's official re-election site	13	7
RNC.com, the official site of the Republican National Committee	11	5
Web site of a politically conservative group such as the American Enterprise Institute or the Christian Coalition	10	11
DNC.com, the official site of the Democratic National Committee	6	6

Source: Pew Internet & American Life Project, June 2004 survey. N= 398 for broadband users and n=524 for dial-up internet users (age 18 and older).

According to Figure 1, as of June 2004 16% of US broadband users and 7% of dial-up users reported visiting 'alternative news sites.' Although it is a rough and limited measure, and although many more people reported visiting the websites of major news organizations, 16% of US broadband users in June 2004 was about 8 million people, and growing.[15] Furthermore, increased access translates to greater capacity to generate and transmit media, not just receive it. Pew has released data on the degree to which people are not only seeking out alternative information, but becoming producers. For example, in November 2004, 19% of US Internet users reported that they had ever "Create[d] content for the Internet," while 58% reported using the net to look for political news or information. In Sept. 2005, 27% said that they had at some point read someone else's blog while 9% said they had created a blog. When asked about their daily Internet activities, these numbers were 4% (create content), 18% (seek political news), 7% (read blogs), and 2% (post to blog), respectively.[16] While these figures tell us little specifically about social movement activity, they are important to our understanding of the overall field of horizontal communication.

While net usage is generally becoming more widespread, access inequalities continue to exist, and to operate along traditional lines of social inequality. Income, geography (especially urban/rural location), race/ethnicity, gender, level of education, age – all continue to be significant predictors of broadband Internet access and skill levels.[17] For example, a US Census Bureau survey of 57,000 households in October of 2003 found that broadband access was 40.4

opinion, Pew also found that "Wired Americans hear more points of view about candidates and key issues than other citizens. They are not using the internet to screen out ideas with which they disagree." (Pew, 2004).

15 Based on a June 2004 estimate of approximately 50 million broadband users (see http://www.nielsen-netratings.com).

16 See full chart, "Internet Activities" at http://www.pewinternet.org/trends/Internet_Activities_12.05.05.htm

17 For more detail see e.g. the January 2006 working paper "New Inequality Frontier: Broadband Internet Access" by Tolbert and Mossberger (2006): http://www.epinet.org/workingpapers/wp275.pdf.

percent in urban areas but 24.7 percent in rural areas; Asian American, White, Black, and Latino households had broadband access at 34.2, 25.7, 14.2, and 12.6 percent, respectively.[18] Global figures of access inequality are much more stark, with just 15% of the world's population having Internet access as of December 2005, and half of those with access concentrated in the 30 most connected countries.[19] It is most likely that increased connectivity and horizontal communication within and among social movements follows the broader lines of connectivity and exclusion, although specific data on this point is sparse. So, for the most part (but with many qualifications and exceptions) movement organizations connected to the core geographical zones of the globalized economy enjoy greater access to communication tools and skills, have more experience with networked communication, and are more likely to integrate communication into their strategies, tactics, and funding.[20] Conversely, movement organizations on the peripheries, especially in the global South and in rural areas, are less connected and have access to fewer advanced communication technologies, tools, and skills. For example, when they are connected at all, campesino and indigenous organizations in Latin America primarily use email; furthermore, their email use is often limited to movement leaders at the national or regional level.[21]

This degree of unequal access has serious implications for the theory and practice of transnational activist networks and global civil society. For example, one recent study examined the global campaign to ban land mines. While this campaign is often painted as a successful example of Internet-enabled transnational action, local organizations and activists in the countries most affected by land mines were often sidelined, cut out of strategic decisions, and passed over in resource allocation, as a result of their lack of connectivity.[22] This example repeats a pattern that operates across labor, environmental, feminist, antiwar, and other movements.

This is not to suggest that social movements are always strongest where there is higher connectivity. There is no simple correlation between the level of Internet connectivity and the strength of social movements. A 2005 comparison of Internet activism in Malaysia and Singapore found a paradox in that the latter country has a much higher rate of broadband penetration, but the former has a richer and more vibrant culture of online activism. The difference is explained by the existence of strong social movement networks predating the net in Malaysia, compared to a weak movement culture and high levels of political repression in Singapore.[23]

The unequal distribution of communication tools and skills between and within social movement organizations and networks must be kept in mind as we turn to the discussion of the most advanced tools and practices of horizontal communication.

TOOLS AND PRACTICES

Our purpose is to understand if and how new Internet techniques and tools are currently being used by social movements to build membership, intervene in political processes, restructure institutions, change power relationships, make policy reforms, support mass mobilization, or otherwise engage in politics. To that end, we ask: what are the tools of

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18 National Telecommunications and Information Administration (2004).
19 Data from ITU, presented by Internet World Stats at http://www.internetworldstats.com/top25.htm.
20 Association for Progressive Communications (2000).
21 This example is drawn from the most comprehensive recent description of communication tools and skills in Latin American social movements, by León, Burch, and Tamayo G. (2005).
22 Beier (2004).
23 George (2005).

horizontal communication that social movements are using? How are they using them? Where do they get them? What impact do they have?

As mentioned above, for the vast majority of the world's social movement organizations, the primary form of horizontal communication through the Internet remains the same as that first used two decades ago by the nascent global activist networks GreenNet, WomensNet, PeaceNet, and LaborNet: email.[24] Numerous other tools are also commonly used by social movements, but this brief will focus on some of the most recent developments in *audio, video, mobile,* and *social software*. Also, it is a critical point that much horizontal communication within networked social movements is *multimodal*. Persistent multimodality means that texts, documents, and media produced by social movements frequently circulate through a combination of many different tools or channels. Thus, tools and technologies are used in combination by networked social movements; movement media is often produced in one format, uploaded to the net, then downloaded, altered, excerpted, remixed, reformatted, and redistributed in a different format via a different channel.

Multimodality

In practice, social movement actors combine technologies and techniques, use tools together to strengthen their communication capacity, develop media with one tool and then incorporate it into a new production that is transmitted using another tool, and so on. In fact, the innovative combinations of new communication tools is one of the most striking aspects of their use by social movements:

> "For me, the crystallizing moment came late one night at the youth campsite in Porto Alegre. Around a thousand young people were gathered in front of a loudspeaker. It was broadcasting live news from the street demonstrations in New York outside the Waldorf-Astoria Hotel. The news was coming from an Indy Media Centre reporter who was on her cell phone in the crowd. Her voice was being streamed live on the Internet. It was picked up by a micro radio station set up in the camp, where her words were translated into Portuguese and then broadcast. At one point the U.S. server went down and was immediately replaced by a back-up in Italy."[25]

I would argue that Naomi Klein's experience of the transnational, multimodal flows of horizontal communication within networked social movements represents the norm, rather than the exception. Multimodal use of communication tools is pervasive among social movements.

Multimodal use does not everywhere look the same, and often depends on levels of access. Where broadband connectivity and personal computer ownership are high, there is more tendency for social movements to produce rich media content (audio and video) for reception on the personal PC, and listening or viewing in the home. Movements have also begun to produce rich media for broadcast to mobile phones (in Korea, for example.)[26] In those places where broadband connectivity is low and limited to universities, corporations, the state and sometimes public Internet cafés, with personal computer ownership also low, people may still watch movement media from cafés and universities and movements may produce rich media content. But more frequently, movements in these circumstances are using the net for lower bandwidth

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24 APC (2000); and see http://backspace.com/action/on_email.php
25 Klein (2002).
26 See http://gomediaction.net.

applications like email and web (text and photo) publishing.[27] As I will discuss in more depth below, a secondary use in these circumstances is to use the net as a backbone or infrastructure to distribute 'rich media' (primarily audio files) for local distribution offline.

Multimodality is also an important component of social movement activity in situations of state repression, as when movements shift content between transmission channels in order to avoid censorship or surveillance. This was the case for Belgrade independent radio station B92, which was repeatedly shut down by the Milosevic regime, but each time was able to continue broadcasting via Internet from a streaming server located in Amsterdam. This stream was rebroadcast by satellite and by local stations, reaching a potential 60% of the population of Yugoslavia.[28]

Audio

Radio is still the oldest and arguably most important audio form of horizontal communication by social movements. Pirate stations and Low Power FM (LPFM) have a long history at the heart of social movement activity, and continue to play a critical role, especially in Latin America and in Africa. Audio may be the best example of multimodality in social movement communication, since the rise of the net combined with the explosion of cheap high quality audio recorders has not meant a shift away from radio, but its amplification in importance. Audio is uploaded online and circulated in many new ways including Peer to Peer (P2P) filesharing, streaming, and podcasting, then downloaded and listened to on PCs or on personal audio devices (iPods and other Mp3 players). At the same time, the abundance of social movement audio online provides Low Power FM (LPFM) radio stations with a vast, rich archive of material that enables nonstop, fresh content flow that would have previously been impossible for a small station to sustain.

Radio must be mentioned in any comparative international discussion of horizontal communication and social movements, because it remains the primary news source for millions of people. This is true everywhere but most marked in parts of Latin America, Africa, and Asia, particularly where illiteracy rates are high and where there are relatively small communities of indigenous language speakers that are marginalized from most national-language media.[29]

Of all electronic communication tools, radio has the longest history and a deep life in movements. From Bolivian miners' radio[30] to the first pirate station in the USA, which was linked to the Black power movement;[31] from the struggle for civil rights in the US South[32] to international feminist radio collective FIRE, radio has always been a core tool of movement communication.[33] Social movement based radio played a key role in the Algerian national liberation struggle, the Berkeley counterculture in the US, and the Italian labor and social struggles of the 1970s, to name a few among many.[34]

Multiple layers of use of radio technology continue to exist today: thousands of low power, community, and movement based radio stations exist simultaneously alongside the

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27 Burch (2002).
28 Tunnard (2003).
29 Id21 (2005).
30 O'Connor (2004).
31 Tyson (1999).
32 Ward (2004).
33 For more on this history see Soley (1999).
34 Downing (2001); O'Connor (2004).

shrinking number of giant national (or increasingly, multinational) firms that control hundreds or, in some cases, thousands of stations. For example, since radio reregulation in the US in 1996, radio giant Clearchannel has snapped up over 1200 stations. At the same time, however, the World Association of Community Radio Broadcasters (AMARC) counts 3000 member stations spread out throughout 106 countries.[35] Also, low power FM stations in the US, for example Philadelphia's Prometheus Radio Project, were important actors in winning legal LPFM licenses from the FCC.[36] These and other battles have led some to theorize community radio as a social movement in and of itself.[37]

By 2006, many social movements and movement-based radio stations use the Internet, on the one hand to transmit audio to net users who listen on personal computers linked to speakers, a stereo in the home, or a portable music player (streaming Internet radio and podcasting) but also to share and distribute audio files and streams that are picked up by low or medium power radio stations transmitting locally on AM or FM bands. Examples include Kill Radio in Los Angeles[38] and Radio Insurgente, station of the EZLN in Chiapas that is rebroadcast locally by pirate radios throughout the Americas.[39] Also notable is the growth of content exchange and distribution networks that gather material from a large number of movement based radio producers, reporting from all corners of the Earth, then assemble this content into programming that is sent out through network affiliates and broadcast to the home. Two very important examples include Free Speech Radio News, in the U.S., and the Latin American Association of Radiophonic Education (ALER), which distributes programming across the hemisphere via satellite and Internet with 8 up links, 187 satellite receivers, and 117 affiliates.[40]

Many pirate radio stations in the USA also now use streaming studio-to-transmitter (STL) links. This means that the radio show is created in one location, then streamed over the Internet to the transmitter, which broadcasts via the radio spectrum. The growing ubiquity of such hybrid Internet-to-LPFM transmission in the USA is confirmed by FCC reports, which indicate that in the majority of FCC raids on pirate broadcasters in 2005, the transmitters seized were remotely controlled, used to broadcast streams sent from the station location via the Net.[41]

While LPFM and streaming radio continue to play key roles, they are now complemented and augmented by an addinditional set of tools that enable asynchronous exchange of audio files. The widespread adoption of portable digital music players, especially Apple's iPod, fed the popularity of blogs built around regular posting of audio files, now known as *podcasts*. By April 2005, about 6 million American adults had downloaded a podcast onto their portable music device.[42]

As in all forms of horizontal communication, progressive social movements have no monopoly on radio or on podcasting. For example, as of February 2006, podcast search engine podcast.net listed 142 podcasts tagged 'conservatism,' along with the 215 tagged 'liberalism.' Popular right wing podcasts at the top of podcast.net's lists bear titles like *Firearms Freedom* and *American Jihad*. White supremacist site Vanguard News Network hosts a popular podcast named *Goyfire* (Slogan: "Hammering out the Jew, One Broadcast at a Time.")[43] Audio files including

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35 See http://www.amarc.org
36 Opel (2004).
37 See Soley (1999); Howley (2004).
38 See http://www.killradio.org/
39 See http://www.radioinsurgente.org/
40 See http://fsrn.org/ and http://www.aler.org.ec/quienes.htm
41 DIYMedia.net (2006).
42 Rainie and Madden (2005).
43 See http://www.vanguardnewsnetwork.com/vnngfmain.htm

white power music, political commentary, and racist humor are all available as either streaming media or for download, and syndicated via XML. While it might be arguable whether they are classifiable as 'right wing social movements,' it is nevertheless interesting that Evangelical Christians have taken to the new form of audio distribution like fish to water. So many podcasts are produced by Evangelicals, in fact, that a new term has been coined: Godcasting.[44] It is also important in the context of a discussion about horizontality that most Godcasts are produced by small, independent churches, not by a centralized church bureaucracy, although Pope Benedict XVI now has his own Godcast.[45]

Experiments with new forms of multimodality, by political conservatives, complicate facile conceptions of horizontal communication. In 2006 the FCC noted that there was heavy rebroadcasting of popular right wing talk radio host Howard Stern's show, legally broadcast on satellite digital radio Sirius but illegally picked up and retransmitted via pirate stations across the USA.[46] The conservative echo chamber can be understood as multimodal across many forms of media, and at the same time a combination of vertical and horizontal, since many stories are generated from within the highest levels of the White House press machinery but are replicated and amplified horizontally through the blogosphere and talk radio:

> "The [Bush] administration's efforts have been amplified by a disciplined and well-organized news and opinion campaign directed by conservatives and the Christian right. This well-funded network includes newsletters, think tanks, and talk radio as well as cable television news and the Internet. Often in cooperation with the White House, these outlets have launched a systematic campaign to discredit what they refer to disparagingly as "MSM," for mainstream media. Through the Internet, commentators can channel criticism of the press to the general public faster and more efficiently than before. As became plain in the Swift Boat campaign against John Kerry, to cite one of many examples, an unscrupulous critic can spread exaggerated or erroneous claims instantaneously to thousands of people, who may, in turn, repeat them to millions more on talk radio programs, on cable television, or on more official "news" Web sites."[47]

Right wing use of low power radio and other horizontal audio tools is by no means confined to the United States. Key examples from older forms of horizontal audio include the role of audio cassettes in propagating a fundamentalist brand of Islam in the lead up to the Iranian revolution,[48] and the role of Radio-Télévision Libre des Mille Collines (RTLM) in inciting and organizing genocidal violence by naming and locating targeted families in Rwanda.[49]

At the same time, there is a vibrant field of networks and organizations involved in the production and distribution of social movement podcasts. These include include Workers' Independent News, the many LPFM stations and podcasters that contribute to radio.indymedia.org, many of the channels on odeo.com (some of odeo's key coders are heavily active techs in the Indymedia network), just to name a few.[50] Workers' Independent News, for example, gathers audio content from across the United States and uses it to produce a syndicated service of daily headline news segments from workers' perspectives, in-depth features and stories, economic reports, and raw audio archives for radio stations and print publications. The

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44 For example, see http://www.godcast.org/
45 See http://www.cnn.com/2005/TECH/12/27/spark.godcasting
46 Chmielewski (2006).
47 Massing (2005).
48 Sreberny and Mohammadi (1994).
49 Des Forges (2002).
50 See http://www.laborradio.org/; http://radio.indymedia.org; http://odeo.com/channel/41065/view.

content is created by local unions and non-affiliated activists in a horizontal network, gathered together, edited, and repackaged, then distributed horizontally via audio streaming and podcast (RSS syndication).[51]

Another important horizontal network of social movement based audio producers is Free Speech Radio News (FSRN). In addition to shortwave and Internet streaming, FSRN content is available via RSS syndication (podcast). Born in 2000 during an attempted takeover of progressive radio network Pacifica by centrists, as of early 2006, FSRN was experiencing continued growth and counted "200 journalists who report from 40 states within the U.S. and 57 countries around the world-including Israel/Palestine, Iraq, Afghanistan, Argentina, Mexico and Nigeria. Any journalist may pitch a news story to FSRN and every reporter who produces a story gets paid. FSRN actively recruits and trains people throughout the U.S. and around the world resulting in an ever-expanding and broadened reporter base. FSRN supports peace and social justice. It emphasizes decentralized production, and the collective input of Pacifica stations, affiliates and other community media ... Currently, the FSRN newscast is broadcast in the U.S. on over fifty community stations, the five Pacifica Network stations, and in 120 countries around the world via shortwave and the Internet."[52]

From these and many other examples we can say with confidence that new forms of horizontal audio, including podcasts as well as multimodal innovations such as the rebroadcasting of satellite radio via local low power pirates, or the distribution of audio via streaming audio for local rebroadcast, are currently spreading through the networks of social movements of all kinds, and to every continent.

Video

Social movements have a long history of moving image production, from film, to VHS, to digital video cameras, and, most recently, digital video capability in cell phones. The combination of Internet, nonlinear editing, and relatively cheap digital video cameras has produced an explosion of social movement documentary production. Distribution has been radically opened by the net, peer to peer software, streaming capability, and most recently by innovations in social software that enable greater ease of use in video uploading, tagging, rating and sorting, and downloading. Newest developments are the ability to shoot and share video clips via mobile phone, and experiments in collaborative editing.

In many ways horizontal use of video by movements parallels the situation with audio. In fact, often the networks of programmers, the software tools, the channels of transmission, the face to face meetings, the funding structures, and so on all overlap with those of audio production (see more below on actors and circulation).

Although a younger set of tools than radio, moving image content developed and circulated by movements also has a long history. Social movements created cinema starting in the earliest days of film, and by the 1960's social movements achieved greater horizontal diffusion through the use of 8mm and 16mm. Film production required a relatively large investment of resources, and this limited the broad adoption of film tools by grassroots social movements. As a result, much politically motivated cinema was controlled vertically by political parties. Although 8mm motion picture cameras were available by the 1930s, they were not widely adopted until the 1960s, when costs came down and ease of use improved. As next generation 8mm cameras were

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51 See http://www.laborradio.org
52 See http://www.fsrn.org/history.html

more widely adopted, social movements took them up and produced a wave of independent, horizontal, and movement based films. It was at this time that radical production and distribution collectives, like Third World Newsreal, began to emerge.[53]

The arrival of the home video camera in the late 1970s at first did little to increase the horizontality of moving image production or insert it into the life of movements. The early equipment was expensive and bulky, and linear video editing also required expensive specialized equipment and skills. Movement video could only happen when movements were linked to universities or, in the US case, to the public access system. Indeed, by the end of the 1970s, public access stations were vibrant with movement video production and distribution, and by the 1980s, the body of movement video work was growing rapidly.[54] This was coupled with the spread of home video recorders following the failed industry attempt at blocking their availability through the courts (the Betamax case).[55] This enabled massive home recording and duplication of audiovisual material. Most attention has been paid to this in terms of the impact on industry from consumers duplicating commercial films and television programs. However, it was also at this time that movement video really exploded, with widespread reproduction and circulation of videos produced from within movements.[56] In the US this was true first for progressive movement media (labor, Black and Brown power, antiwar, feminist, gay rights, antinuclear and environmentalist) video tapes, but by the late 1980s it was widely adopted by the religious right as well.[57]

The major shift that occurred during the 1990s was on the one hand the rise of nonlinear, computer based video editing systems, and on the other the increased diffusion of consumer grade digital video cameras and falling costs for the large amounts of memory (hard drive space) needed for full motion video. There is good documentation on this phase of horizontal video in the USA and its broad use by community projects as well as social movements. There is also interesting work that demonstrates the ways that movement film and video serve to help strengthen social movements by generating coalitions between producers, movement organizations, and networks of distribution, thereby creating impact beyond that of the text on individual viewers.[58] By 1999, cheap digital video cameras, cheap hard drive space, greater access to personal computers and to nonlinear editing software, and increased broadband connectivity combined with growing access to the Internet. At the same time came the heightened visibility and resurgence of decentralized, networked, autonomist and anarchist forms of mobilization, along with the Indymedia network of radically horizontal social movement communication.

The story of the birth of Indymedia in Seattle during mass mobilizations against the 1999 WTO Ministerial has been told many times in both movement and academic literature.[59] With respect to horizontal video, the Seattle Independent Media Center (IMC) served as a key node where video activists from a previous generation came together with younger activists more familiar with digital cameras, nonlinear editing, and the web, creating a productive site for the exchange of skills and tools, as well as cultures of production and distribution. After Seattle, the vast pool of footage captured by videomakers who had participated in small affinity groups, then logged and shared their shots in a collective process. This material was remixed into a number of

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53 Downing (2001).
54 Freedman (2000).
55 See http://www.eff.org/legal/cases/betamax/
56 Harding (1998); Ouellette (1999); Halleck (2002).
57 Kintz and Lesage (1998).
58 Whiteman (2004).
59 Kidd (2003); Downing (2002; 2003); Juris (2004). Traffic to Indymedia in 2006 is similar to that of top-ranked political blog DailyKos. See Appendix, Figure 4: Indymedia Traffic.

shorter news clips, 30 minute segments for broadcast over the cable access infrastructure, and full length documentaries for screenings in community centers, squats, independent cinemas and universities.[60] One of these documentaries, "This Is What Democracy Looks Like," sold over 10,000 copies entirely through a grassroots distribution network, and within one year was screened in more than 50 cities around the world.[61]

The next few years marked a paradigm shift in US and European video activism, as horizontal social movements, converging for mobilizations against the meetings of financial institutions, adopted and strengthened the tools and skills of collaborative (50-100 or more cameras) mobilization documentation. This type of horizontal production process was used to create collaborative documentaries from mass mobilizations against the G8 in Genoa,[62] the IMF and World Bank in Prague,[63] the WTO in Cancún,[64] the Free Trade Area of the Americas in Miami,[65] and so on. Web distribution of short clips, peer to peer distribution of movement video, the social infrastructure of movement video makers, the network of smaller cinemas and university departments willing to show this content, all were greatly strengthened and multiplied between 1999 and 2006.

This process was not limited to the United States and Europe. In fact, horizontal video production and circulation embedded in Korean social movements (especially the labor movement) emerged as a powerful 'moment' slightly earlier than in the US or Europe.[66] This was due to the combination of access to cheap video cameras, computers, and broadband connectivity in Seoul, layered on top of a rich history of worker's video collectives that had emerged out of the successful struggle against the dictatorship. By the end of the 1990s, groups like Labor News Production,[67] Jinbonet,[68] and Sarangbang[69] all were busy creating a vibrant culture of horizontal communication among Korean social movements through worker's video collective trainings, documentary festivals, and early innovations in online distribution of video clips.

Similar to radio, one of the most interesting developments has been the combination of the Internet as content circulation backbone with local broadcast of material via analog channels. This is most developed in the case of the Italian Pirate TV network, Telestreet:

> Inaugurated by the launch of Tele Orfeo in Bologna in June 2002, "street television" is a low-cost participatory model of independent community media. Stations utilize a micro-transmitter to broadcast over unused frequencies within ranges of under a kilometer. Operated by and covering issues of interest to local communities, the "telestreet" movement has since become a network of over 200 neighborhood television micro-channels across Italy. It was launched as an explicit challenge to Italian Prime Minister Silvio Berlusconi's dominance of the private airwaves and control over the public ones; setting up a telestreet station is open to anyone. As such, the different stations are run by a wide spectrum of groups, including those involved in the struggles of migrants, social centres, trade

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60 For example see http://www.thisisdemocracy.org; http://www.whisperedmedia.org/showdown.html.
61 See http://www.thisisdemocracy.org/7_n30list.html
62 O'Connor (2001).
63 See http://praguevideo.indymedia.org/
64 See http://www.cinemapolitica.org/upcoming/kilometer_0_wto_shipwrecks_in.html
65 See http://ftaaimc.org/miamimodel.
66 Kim (2005).
67 See http://www.lnp89.org/english/
68 See http://www.jinbo.net/
69 See http://www.sarangbang.or.kr/

union organizers, and dozens of neighborhood groups and associations.[70]

Telestreet stations typically broadcast a mix of local content along with clips and documentaries that circulate via the web, through P2P networks, as well as hand to hand through social centres, squats, and convergence spaces at mobilizations. Other low power TVs that operate in a similar way, with the Internet as backbone for content sharing but analog 'last mile' delivery, include Zalea TV in Paris,[71] and Okupem Les Ones! in Barcelona[72]. These examples inspired an effort to launch Berkeley pirate TV in the San Francisco Bay Area.[73]

Meanwhile in Buenos Aires, a seven-year experiment in low power TV called Canal 4, which broadcast from 1992 to 1999, is now being reborn in a series of neighborhood television stations including TV Piquetera, Claypole Community TV, and Free TV La Matanza.[74] In this case, the stations are articulated with the net via Indymedia Argentina. These examples are taking place despite significantly lower access in Latin America to the most recent video tools or to 'always-on' broadband Internet connections, compared to North America, Europe, or parts of Asia (especially Japan and Korea). Even with very little access to digital video cameras or computers capable of nonlinear editing, the rise of low power TV in Buenos Aires is one element of a recent wave of Latin American social movement video production, arguably due to the resurgent strength of Latin American social movements. Latin American movements are producing a large quantity of high quality video documentation of their struggles, especially in Mexico, Argentina, and Brasil, as well as in Bolivia, Ecuador, Peru, and Colombia. The spread of the Indymedia network has also brought a flow of resources, cameras, and computers from IMCs in North America. Further, Latin American videos produced in horizontal social movement networks can now be picked up and retransmitted by vertical television broadcasters, either state supported or private. For example, the wave of social protest that rocked Bolivia from May to June of 2005 and laid the groundwork for the electoral victory of Evo Morales was documented from within the movements by Indymedia Bolivia. This compelling documentation was picked up by Caracas-based Vive TV,[75] itself possessing the capacity to reach 60 to 70 percent of the Venezuelan population.[76]

By 2005, in addition to digital video tools and skills becoming ever stronger and more widely diffused among social movements throughout the world, several Free/Libre Open Source Software (FLOSS) developments heralded another moment of transformation. These tools include IPTV, p2p video streaming, vlogs (video embedded in RSS feeds), and a new generation of video feed readers/media players and social content filters. Although it is still too soon to know the speed with which these will diffuse, the trajectory is now visible: existing tech activist collectives linked to social movements have adopted (and in some cases are themselves creating) the new software tools to enable more powerful horizontal video distribution.

IPTV

Television content is already being streamed over broadband Internet by startup commercial stations as well as by geeks, hackers, and tech activists. While commercial broadcasters jostle for position behind the IPTV starting gates, a few social movement-linked

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70 Web of Struggles (2006); and see http://www.telestreet.it
71 See http://www.zalea.org
72 See http://www.okupemlesones.org/
73 See http://www.freeradio.org/index.php
74 Renau (2005). Online at http://barcelona.indymedia.org/newswire/display/207537/index.php
75 ViveTV is hosting the Indymedia Bolivia documentation at
    http://www.vive.gob.ve/capitulos.php?id_p=3&id_c=96&p=4
76 Kozloff (2005).

stations that operate horizontally have also begun streaming content via IPTV. For example, the French free television station Zalea transitioned from a pirate signal to a permitted station (briefly) broadcast from the Eiffel tower, and thereafter to a Tunisian satellite channel, until finally, in 2005, it focused energies and resources on transmitting over a French IPTV network with several hundred thousand subscribers. In the summer of 2005, a transnational network of antiwar organizations funded a live streaming broadcast of the World Tribunal on Iraq.[77] Movement techies have long discussed the possibility of peer to peer IPTV, which is potentially flexible, scalable, and very difficult to block or censor.[78] In 2006, commercial P2P video streaming companies are already visible, and the network of Italian pirate TVs has begun a project to repurpose Chinese P2P streaming software, from signal piracy of commercial signals to activist ends.[79]

Another interesting recent development is the move by some professional progressive video production companies to systematically bring large numbers of people into their production, editing, postproduction, and distribution process. For example, Brave New Films, producers of Robert Greenwald's documentaries *Wal-Mart: The High Cost of Low Price, OutFoxed: Rupert Murdoch's War on Television,* and *Uncovered: The War on Iraq*, recently launched a network of "volunteer field producers," inviting people into all stages of the documentary production process.[80] Such efforts at collaborative video production are receiving a boost from projects like v2v,[81] which invites movement videomakers to upload full quality raw material to a site based on the FLOSS content management system Drupal. This enables videomakers to subscribe to RSS feeds of selected material, as well as to automatically generate bittorrent versions of their files to ensure scalable access to high quality material via P2P filesharing networks. The Indymedia network has a similar project, called the Indymedia Video Distribution Network (IVDN).[82] In partnership with nonprofit Archive.org, which agreed to host a huge volume of activist video content from the IMCs, IVDN provides a free place for social movement videomakers to upload footage. IVDN also automatically pulls syndicated video content from local IMCs around the world.

Yet another innovative group of developers is building a Drupal plugin that would link nonlinear video editing system Final Cut Pro (the industry standard) to a shared online archive of activist material, greatly facilitating collaborative editing by treating the Net as a huge hard drive full of movement based source material ready for remixing. This footage sharing system would also work with cinelerra, an advanced video editing system that is entirely free and open source software.[83] In addition to networked documentary production, social movements are also adopting new tools that enable and facilitate the easy creation of Internet 'TV channels' (vlogs or vodcasts). Files published to IVDN are syndicated via an RSS feed that people can subscribe to using any of the new generation of FLOSS video readers such as Democracy TV or FireANT.[84] These channels are also readable by Apple's popular iTunes media player.

Finally, these video tools are beginning to overlap with mobile devices. Already, Korean media activist organizations Media Culture Action and Jinbonet encode short video clips for download to mobile phones. This takes us to the discussion of mobile activism.

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77 Streaming the World Tribunal on Iraq: http://3030b.org/gallery/albums/Ali-summer-2005/aliposting.jpg
78 See http://www.freepress.net/news/11246
79 See http://www.coolstreaming.it/
80 See http://www.bravenewfilms.org/register.php
81 See http://www.v2v.cc
82 See http://video.indymedia.org
83 See http://heroinewarrior.com/cinelerra.php3
84 See http://www.participatoryculture.org

Mobile

> Political organizations across the world use text messaging to register voters, mobilize constituents, and to win elections. From the Philippines to Spain to South Korea, text messaging has played an instrumental role in organizing "TxtPower" movements. South African officials have used it to assist more than 180,000 voters to retrieve registration and polling location information, Kenya to coordinate election monitors, and India to communicate directly with constituents.[85]

The widespread adoption of mobile phones is one of the most important developments in social movement horizontal communication. Mobile phones are the multimodal tool par excellence. SMS has now been used to organize mass mobilizations, action alerts, public pressure on elected officials, and win political victories in many parts of the globe. Ringtones have been used to enhance and strengthen popular mobilization based on political scandal by serving as a new audio distribution and public broadcast mechanism. Automatic call-in systems have enabled podcasting, streaming, and live radio reports from the streets during mass mobilizations, while photo and, increasingly, video capabilities allow similar mass documentation of mobilizations. Mobile phones have also been used to create and distribute surreptitious documentation of human rights abuses, of state and corporate corruption, and to provide fodder for the politics of scandal.

While the use of SMS in electoral politics has drawn increasing attention, social movement use has actually been much more diverse. For example, Amnesty International has published a "Tactical Notebook" series, including one that describes successful SMS campaigns to free political prisoners, stop the torture of dissidents in Zimbabwe, and release gay men from Egyptian jails. The Notebook also describes how SMS campaigns have been effective at attracting a younger generation into the Amnesty network.[86] Meanwhile, in the Philippines, ringtones were used as a political weapon against the corrupt President Arroyo:

> "Activists began to realize the potential of ringtones as organizing tools. For example, TXTPower.org popularized a series of ringtones that included clips of a wiretapped phone conversation that caught President Arroyo and the Philippine's election commissioner conspiring to fix an election. Not surprisingly, the government embargoed the recording [...] however the ringtone was downloaded over 1 million times making it the most popular ringtone ever. That's one million phones circumventing traditional media outlets by individually broadcasting in private and public places – homes, schools, offices, markets bus stops - the most humiliating and incriminating moment in a corrupt politician's career."[87]

The use of mobile phones by social movements is by now an active topic of research, with most published material generally focusing so far on instant messaging (SMS). Recent comprehensive work highlights the most important uses of mobile telephony for horizontal political organizing: key examples include the 2004 Spanish general election, where the widespread use of SMS amplified turnout among younger voters and contributed to the upset victory of the Partido Socialista Obrero Español;[88] the NYC Republican National Convention,

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85 MobileVoter (2005).
86 Bosman (2004).
87 MobileActive (2006).
88 Suárez (2005).

where SMS was crucial to rapidly changing direct action tactics; the last South Korean presidential election; the Arroyo election scandal in the Philippines mentioned above, and many more.[89]

Current developments in the use of mobile phones by social movements include the enhanced ability of phones to create and transmit content other than SMS. Higher quality photo and video capability in the newest generation of mobile phones has led to several software tools that allow people to publish photos, audio, and videos from mobilizations directly to social movement websites. For example, during mobilizations against the WTO ministerial in Hong Kong in December, 2005, Korean media activists created a feed of photos and short video clips posted directly from activists' mobile phones.[90] Another recent innovation popularized by podcasting site Odeo.com, developed by coders who are also Indymedia tech geeks, is the ability to call in from a mobile phone and automatically generate an mp3 audio file that is dropped directly into a podcast. This feature is already used by activists to call in live podcasts from street mobilizations.

Social Software[91]

While the definition of social software is contested, most seem to agree that the category includes software tools that allow participation in collective content production, filtering, modification, commentary, and/or distribution, that facilitate community building through connecting people with similar interests, that allow community standing based on participation, reputation, and trust, and that involve bottom-up governance styles.[92] Lists of software tools that fit this definition typically include blogs, wikis, social network services, social bookmarking, and peer-to-peer networks. Additional types of software that are sometimes labeled 'social' include instant messaging or chat, MUDs and MOOs, Massively-Multiplayer Online Games (MMOGs), and others. Many of these social software tools have been adopted (and in some cases created) by social movements to augment their ability to organize locally, create systems for social filtering of media content of all kinds, and leverage trust in the war for attention or mindshare. The most discussed form of social software is blogs.

Blogs

While regularly updated, personal or journalistic websites have existed since the early days of the web browser and the world wide web, the term *blog* (coined either by Jorn Barger in December 1997 or by Peter Merholz in the summer of 1999[93]) has since grown in popularity. It is used to describe websites with regular posts arranged with the most recent post at the top. Blog posts are typically categorized by keywords, sources are linked within the text of the post, and blogs often include a list of links to other blogs.[94] Blogs also typically provide a feed of syndicated content that can be subscribed to with an RSS reader. When Pyra Labs launched popular blog hosting service Blogger (later acquired by Google) in August of 1999, the term's popularity was cemented.

Randomized link time graph analysis has shown that after 2001, the blogosphere

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89 Castells, Fernandez-Ardevol, Qiu, and Sey (2004); Nicholson (2005).
90 See http://gomediaction.net/webbs/list.php?board=gomediaction-6
91 This section to be expanded in the future.
92 For example see http://en.wikipedia.org/wiki/Social_software
93 Wikipedia, 2006: "Blogging Appears." http://en.wikipedia.org/wiki/Blog, accessed 2.21.2006.
94 Wikipedia. "Blog." http://en.wikipedia.org/wiki/Blog Accessed February 20th, 2006.

underwent rapid growth by metrics of scale, link density, and interconnectedness, with the rapid formation of micro-communities that evolve via "dense periods of bursty intra-community link creation."[95] Quantitative estimates about blogs are complicated by the definition of the term, by issues of language (some blog search tools only return English language blogs – see Appendix, figure 5: 'blogs by language.'),[96] and by the fact that many (perhaps the majority) of blogs end up abandoned by their creators, but continue to be listed in raw counts of the number of existing blogs.[97] A rough quantitative sketch is as follows:

Figure 2: The growth of the blogosphere
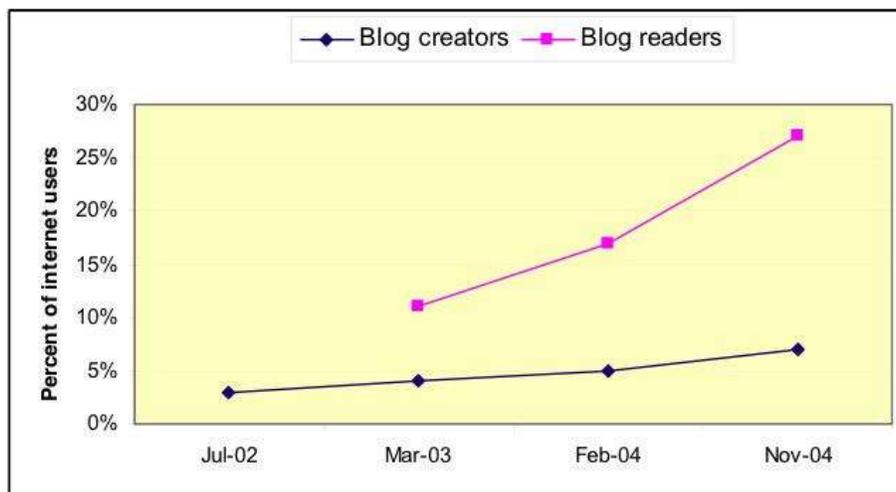
As of the time of this writing (February 2006), there were about 28.4 million blogs, up from 26 million the month before;[98] the majority of these were written by white, mid to high income, college educated, experienced Internet users.[99] One survey of 3,747 blog readers during the summer of 2003 found that most were "young, highly educated men with high incomes," who tended to use blogs to fact check the media and to seek out political information.[100] Researchers have studied the geographical distribution of blogs in the United States, and found that bloggers are clustered in zones with high-density communications infrastructure.[101] The Pew Internet and American Life Project reports that, when asked (in September 2005) about the online activities that they engaged in "yesterday," 7% of U.S. Internet users reported reading a blog, while 2% reported posting content to a blog.[102] In its most recent report on blogs (released in December 2005), Pew notes that "8 million American adults say they have created blogs; blog readership jumped 58% in 2004 and now stands at 27% of Internet users; 5% of Internet users say they use RSS aggregators or XML readers to get the news and other information delivered from blogs and content-rich Web sites as it is posted online; and 12% of Internet users have posted comments or other material on blogs. Still, 62% of Internet users do not know what a blog

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95 Kumar and Novak, et. al. (2005).
96 Tricas, Ruiz, and Merelo (2003). See Appendix, Figure 5 for an estimate of Blogs by language.
97 For more on the methodological difficulties of measuring the blogosphere see http://www.blogcount.org
98 See http://www.technorati.com
99 Rainie (2005).
100Kaye (2005).
101Lin (2005). For an international study of the geography of internet activism, see Loader (2005).
102Pew (2005). "Daily Internet Activities." http://www.pewinternet.org/trends/Daily_Activities_12.05.05.htm

is."[103]

By 2006, many 'traditional' media firms (including CNN, the New York Times, and the BBC) had added blogs to their web presence. Recent analysis of blogs by journalists who work for traditional media firms demonstrates that these journalists are using blogs to strengthen the gatekeeping role of large media firms, rather than undermine them. Content analysis reveals that these blogs link almost exclusively to established news sites, thereby becoming another channel for diffusion of top-down content rather than a vehicle for horizontal communication.[104]

The adoption of blogs by traditional news organizations aside, many – perhaps most – blogs are personal diaries. These does not necessarily mean that they are apolitical. For example, arguably the most interesting and important reporting on the bombing of Baghdad came from Iraqi blogs like Baghdad Burning, later published in paperback form.[105] Among those blogs that are focused explicitly on politics, progressive social movements have no monopoly on the blogosphere.[106]

A growing number of recent academic articles analyze the impact of blogs on the political process.[107] The majority of writing on blogs and politics has focused on the rise of the blogosphere as a force in the 2004 US presidential elections.[108] Bloggers in 2004 pushed their favored candidate's positions, fact checked stump speeches, raised money to buy TV ads, critiqued mainstream media election coverage, dissected political polls, and otherwise engaged in the election campaigns at every level.[109] The Dean campaign's Blog for America, especially, has been intensively studied and is thought by many to be a model for a political campaign allowing significant decentralization and horizontality into what had become a tightly closed vertical process.[110]

Bloggers have been able to keep political stories circulating that might otherwise have fallen off the radar of mass media. Perhaps one of the best examples of this agenda-setting power of the blogosphere came in 2002, when Republican Senator Trent Lott became the first Majority Leader in history to be forced to step down after bloggers picked up his racist remarks at Senator Strom Thurmond's birthday party.[111] Another example of agenda-setting in mass media via the blogosphere can be found in the Korean general election of 2000, where blogs and bulletin boards set the pace for newspaper coverage.[112]

The blogosphere is typically talked about as if it were a kind of social movement in its own right, but we are more interested in the use of blogs by social movements that have an offline presence in addition to a virtual one. A recent US study of labor websites found that, as of 2005, most national unions (including the AFL-CIO and American Federation of Government Employees) maintained static web pages with no interactive capability; the same study found that by contrast, many local unions were adopting horizontal forms of communication including

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103Rainie (2005).
104Singer (2005).
105Riverbend (2005).
106A recent New York Times magazine story claims that eight out of ten top blogs are right-wing
    (Massing, 2005).
107Ratcliffe et. al. (2005).
108Lawson-Borders (2005);
109Blumenthal (2005); Sey & Castells (2004); Juris (2004); Trippi (2004).
110Kerbel and Bloom (2005); Sey and Castells (2004).
111Kahn and Kellner (2004).
112Lee (2005).

blogs that allowed members to post directly.[113] A study in Finland reached similar conclusions: large trade unions were using the web as a one-way transmission channel.[114] This approach may be changing. For example, SEIU's http://www.purpleocean.org is an example of a major labor union trying to build a health care campaign by opening communication up to horizontal participation from rank and file, and also from nonunion campaign supporters, by hosting blogs related to the campaign.

The adoption of blogs as a tool in the arsenal of social movements is taking place even where government controls on information flow are quite tight. In Syria and Egypt, the state is increasingly unable to control bloggers and Internet radio stations. Highly unequal net access in Egypt means that the majority of blogs critical of the state are written from the perspective of the (small) middle class. At the same time, Islamist movements of various kinds have been making heavy use of the Internet and blogs, including in mobilizing the growing ranks of the urban poor in Cairo. Maps to recent street mobilizations against the Egyptian government were distributed via the net and linked to many blogs.[115]

Blogs have been adopted by many social movements and have become an integral tool that, in some conditions, have helped draw in participation by the movement base. Blogs have become an increasingly visible news source, and the blogosphere has had major impacts on political figures and processes, primarily by pushing news stories up from the bottom until they emerge into the mass media landscape (agenda setting). Blogs continue to grow in popularity among mass membership social movement organizations; at the same time they have now been adopted by political parties, politicians, government offices, and vertical organizations including mass media, large private firms, and multilateral bodies. All of this has been covered in depth in previous literature.[116] In terms of the most recent developments in blogging that have been taken up by social movements, the main points are first, the ever greater number of people who read and post to blogs; and second, the increasing integration of rich media content (podcasts and vlogs), which was discussed above in the sections on audio and video. Additional points for further research are the rise of a top tier of 'A-list' blogs that some argue represents the transformation of a horizontal communication space into a vertical one (see Appendix, Figure 6: 'A, B, and C-list blogs.')

Social Network Services

Another type of social software tool that has been used by some social movements is social network services. Social software that connects individuals through networks of trust have already undergone several generations. In the US, the first to receive wide attention was Friendster, soon followed by MySpace, Facebook, and Tribe.[117] These sites operate on the principle of networks of trust, enabling connections between groups of people with similar interests, however esoteric, and links between 'friends of friends of friends.' They serve both to connect online communities that remain virtual, and to facilitate face to face meetings by connecting interest communities that live in a particular geographical area. Some social movement organizations have created profiles on these and similar sites. For example, MySpace was originally marketed as a site for independent musicians to promote their music and link fans

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113Pinnock (2005).
114Aalto-Matturi (2005).
115Stack (2005).
116Sey and Castells (2004); Trippi (2004); Lebkowsky and Ratcliffe (2005).
117See http://www.friendster.com, http://www.myspace.com, http://www.facebook.com, http://www.tribe.net.

with similar tastes, but soon became the most popular social networking service for young people in the USA. By 2006, a wide spectrum of activist networks and social movement organizations including anarchists, vegans, environmentalists, and feminists all have MySpace profiles.[118] They use these as tools to announce meetings, actions, and events, distribute movement media (especially photos and audio, but increasingly including video clips), and to reach out to young, Internet savvy demographics.[119] Similarly, Tribe.net lists 771 'tribes' (their term for user-created groups) under the category 'government and politics.'[120]

Some social network software focuses explicitly on facilitating face to face meetings based on shared interests of varying nature. MeetUp is the most widely used example of this type of software. The most visible example to date of the use of social software for political organizing was the Dean campaign's recognition that MeetUp could be a powerful tool to help their base self-organize.[121] The use of MeetUp emerged first from the base of Dean supporters and was then encouraged and fostered by campaign leadership.[122] This is an interesting example of how horizontal communication practice can to some degree restructure and revitalize vertical political organizational forms.

Further research in social movement use of social software is beyond the scope of this note, but might focus on the free open source software movement, P2P filesharing, wikis, social bookmarking, and collaborative editing tools, as well as older forms like irc (chat).

CIRCULATION

How do these tools and skills spread across the globe, through the networks of movements? Examining this question in detail is important and helps us avoid the tendency to place the technologies at the center, or to imagine that the tools themselves inherently generate particular types of social practice when they are taken up by social movements. Instead, horizontal communication practices, skills, and equipment are spreading through the global networks of social movements in very specific and concrete ways. There are key organizations and individuals who explicitly focus on socializing horizontal communication knowledge and tools throughout the web of movements There are physical spaces both temporary and (semi) permanent that serve as laboratories for knowledge and equipment exchange. There are specific moments of mass (or micro) mobilization that function as crucibles for the forging of new horizontal communication networks. There are movement-produced texts and audiovisual materials that are designed to provide training and information about horizontal communication.

Actors

Social movement adoption of new tools and practices of horizontal communication is not automatic or necessarily spontaneous. Frequently, adoption is facilitated by key actors including individual tech activists, tech activist collectives, and training organizations dedicated to this purpose.

Radical and progressive, worker-owned and run tech/design/activism collectives play a key

118See http://www.myspace.com/infoshopdotorg (anarchist infoshop), http://www.myspace.com/rootsofcompassion (vegan network), http://www.myspace.com/gpus (Greenpeace), www.myspace.com/feminists (feminist network), etc.
119Jesella (2006).
120See http://tribes.tribe.net/category/government-politics
121Sey and Castells (2004).
122Trippi (2004).

role in the diffusion of innovations in communications activism through the networks of social movements. For example, groups like Eggplant Active Media Workers' Collective (www.eggplant.coop), the Design Action Collective (www.designaction.org), and Cooperativa del Sur (www.coopdelsur.org) have in recent years joined the ranks of longstanding radical collective printing presses like Red Sun Press (www.redsunpress.com) and AK Press (www.akpress.org). Many of these tech/activism collectives provide services to a wide range of social movement organizations, from small grassroots groups through large-membership social movement organizations, and sometimes including professionalized international NGOs like Greenpeace and Amnesty International.[123] Tech activist collectives often serve as nodes or hubs in transnational social movement networks.

When new tools of horizontal communication emerge, often their use is diffused through social movement networks by dedicated organizations. This has been the case with the use of SMS in social justice and human rights campaigns: for example, an organization called Fahamu has trained about 160 organizations throughout the African continent in the use of ICTs for social change, and played a key role in deploying SMS as a tool in a petition drive to ratify the Women's Rights Protocol. Organizers then built on their experience to bring SMS into debt cancellation activism within the umbrella Global Call to Action Against Poverty.[124]

During the last decade, newer networks like Indymedia have joined those with decades of experience in training social movements to use horizontal communication. Older networks include the Association for Progressive Communication (APC), the World Association of Community Radio Broadcasters (AMARC), the World Association of Christian Communicators (WACC), and others. Over the course of two decades, AMARC World Conferences have functioned to strengthen horizontal radio networks in Vancouver, Dublin, Mexico, Dakar, Milan, and Kathmandu.[125] These networks have recently made efforts to link to the new generation of communication tech activists, especially through the World Social Forum process and to some degree around the World Summit on the Information Society (WSIS). For example, the campaign for Communication Rights in the Information Society (CRIS) emerged around the WSIS to promote a vision of people-centered ICT policy and a social justice framework for thinking about the globalization of communication systems. CRIS then took up an organizing role in promoting communication as key theme withing the Social Forums, and became one point of connection between different regions, older existing networks, and new networks of younger media activists. Another example is the transnational network of feminist activists focused on gender and ICTs that coalesced around the 1995 Beijing Summit on Women, and then continued and carried forward their activity through the 2005 WSIS process and beyond, developing a common analysis of ICT policy around gender justice and forging ties to a new generation of feminist tech activists.[126]

Tech-activist actors are often themselves linked in networks, articulated to both local, national, and transnational social movement organizations, and operate within and through both the *space of places* as well as the *space of flows*.[127]

Space of places

123Emerson (2005b).
124Gertz (2005).
125AMARC (2006).
126Sreberny (2005).
127Castells (1989).

Tools and skills of horizontal communication are often passed between nodes in networked social movements in concrete physical spaces, including convergence centers and independent media centers during mass mobilizations; as well as social centers, infoshops, hacklabs, and other temporary or durable sites of movement activity. Other localized but temporary spaces that facilitate tool and skill sharing include workshops, conferences, and forums dedicated to the exchange of tactics.

A recent study of antiwar and alterglobalization activists in Britain emphasizes the importance of physical meeting places like infoshops, squats, and social centers in creating the emotional and community ties that sustain networked horizontal communication practices online.[128] Other work on the spread of the Indymedia network emphasizes that local IMCs are often first created out of the need to cover a mass mobilization against a meeting of the powerful.[129] This was certainly the case for the first IMC in Seattle (WTO), as well as for Philadelphia (2000 Republican National Convention), Los Angeles (Democratic National Convention), Italy (G8), and so on. In Italy, many of the social centers have media labs, or host pirate radios or street TVs, while in the US, some Infoshops fill a similar function: "Info-shops are community spaces that facilitate access to traditionally marginalized information while providing a physical space for people to build creative projects of resistance to current forms of destruction and domination [...] the Lucy Parsons Center in Boston, Breakdown Book Collective & Community Space in Denver, Jane Doe Books in Brooklyn (RIP), the Long Haul Infoshop in Berkeley, The Back to Back Worker-run Cafe in Portland, OR, and the Wooden Shoe in Philadelphia [are examples.]"[130] When legal spaces are unavailable, occupied spaces also play an important role in the diffusion of communication tools and practices. For example, in Buenos Aires an occupied bank was transformed into an independent media training and publication space.[131]

Horizontal communication tools and skills also spread through one-time or repeated conferences dedicated to that very purpose, like the Next 5 Minutes festivals that spread the theory and skills of tactical media through European social movement networks.[132] More recently, the diffusion of SMS through the networks of social movement organizations received a boost in 2005 with the first MobileActive conference, which brought together tech activists from around the world to share skills, tools, strategies and stories from the front lines of mobile activism.[133] Similarly, the research network OurMedia/Nuestr@sMedios has played a role in diffusing both research on and hands-on skills of horizontal communication, consciously attempting to balance academic and activist attendance, and balancing panels and discussions with hands-on media laboratories.[134]

Some of the most successful models of skillsharing for social movement organizations have been when intensive trainings and workshops precede coverage of major mobilizations. For example, the Alternative Media-Tech Convergence Hurakán Cancún, organized by a network of Mexican independent media activists and bottomlined by Luz Rúiz and Timo from Indymedia Chiapas, provided two weeks of hands-on training in all kinds of media production prior to the 5th WTO Ministerial Conference in Cancún in 2003.[135] These trainings led directly into production teams for independent coverage of the Ministerial and the mobilizations against it,

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128Lacey (2005).
129Kidd (2003); Downing (2002, 2003); Hanke (2005).
130Kallas and Simmons (2006): http://la.indymedia.org/news/2006/02/148324.php
131See http://argentina.indymedia.org/news/2003/04/99241.php
132See http://www.nextfiveminutes.org
133See http://mobileactive.org/
134See http://www.ourmedianet.org
135Ruiz and Coyer (2003).

and facilitated the creation of a daily newspaper, a radio station, and web reporting for a host of local IMCs and other sites. Daily video reports were broadcast by satellite on Free Speech TV in the US, as well as across Italy via the Telestreet network, and reached tens of thousands of Koreans through jinbo.net. Footage was later cut into a feature-length, collaborative documentary called *Kilometer 0* that played at community centers, labor halls, universities, and alternative cinemas around the world.[136]

Most recently, Asian regional social movement mediamakers created a stronger network and exchanged skillshares prior to and during the Hong Kong WTO Ministerial. Media activists from China, Japan, the Philippines, Korea, and other countries in the region (and across the world) gathered to hold workshops and skillshares, to strategize together, and to plan independent coverage of the mobilizations and events in Hong Kong. A media conference and workshop called New Media and Social Transformation was the site of in-depth discussion on the independent media movement in Asia. Workshops trained independent reporters, and following the mobilization, a collaborative documentary process is underway.[137]

Space of flows

Networked spaces of flows dedicated to training, skillshare, and technical support for social movements also play a key role in the circulation of horizontal communication tools and skills. Examples include email lists, chat rooms, conference calls, blogs, and so on. Probably most crucial here are a relatively small number of websites and email lists devoted to tech-activism. These may be short-term organizing lists used to prepare for international convergence spaces. For example, in the lead-up to the WTO Cancún Ministerial much of the autonomous media workshop schedule was planned in advance via an email list and a wiki. Often these are abandoned within a few weeks after the convergence; sometimes, however, they continue as spaces of flows across borders, with international membership of media activists from around the world who, having met one another face to face and worked together in intense conditions to document a mobilization, continue to exchange information.

A good example of the space of flows of horizontal social movement communication is the Indymedia chat server at irc.indymedia.org. This server hosts dozens of channels, some dedicated to local IMCs, others to particular issues or to breaking stories, still others to tech support or translation. At any given moment, typically more than 200 people from around the world are connected to the chat server and to one of these channels. In the case of a channel dedicated to features for the global Indymedia site, perhaps 5 to 15 people might 'sit' in the channel, working across media, across boundaries, and across time zones to develop a breaking story for publication: two people, sitting in an Internet café down the street from a mobilization in Sao Paolo, are receiving phone calls, text messages, and verbal reports from people coming back from a wave of direct actions. They type these reports into the chat room, where another person sitting at a university in Mexico takes them, translates them into English, and pastes them back into the chat. Meanwhile, another person at the IMC space in San Francisco is pulling photos from the Indymedia Brasil newswire and posting the links to a draft version of the story, composed on the wiki at docs.indymedia.org. Once the story is ready for publication, it is sent to the Global Features email list, then published to the site www.indymedia.org, which also means that it appears in the site's RSS feed and is sent to all of the email clients, blog aggregators, mobile phones, and other communications devices of people who have subscribed to the feed.

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136 See http://www.cinemapolitica.org/upcoming/kilometer_0_wto_shipwrecks_in.html
137 See http://inmedia-conf.blogspot.com/ for conference info, and for coverage, see
http://gomediaction.net/en/ and http://targetwto.revolt.org.

All of this multimodal, cross border fluidity is not seamless, however. Tension between the space of places and the space of flows exists within the horizontal communication practices of networked social movements, just as in other systems. These tensions sometimes manifest inside social movement networks between those who are primarily tied to local organizing, and those who 'globetrot.' Sometimes resource-rich activists who quickly arrive and then leave during major mobilizations are referred to as 'parachuters,' or as *piqueturistas* (protester/tourists). In the space of flows, resource inequality manifests in the disparate levels of broadband connectivity, capture and editing hardware, and so on, that allow some to remain always present, active, and productive while others struggle to participate via dial-up. At another level, a recent analysis of weblinks between environmental, consumer, and social justice organizations that oppose global agribusiness, and local organizations that promote concrete farming and food alternatives, found that there was a lack of linkage between the local (place based) groups and the global (flows based) network.[138]

Together, the space of places and the space of flows serve as generative sites and incubators for the last form of the circulation of autonomous tools and practices that I will discuss here: code for struggle.

Code for struggle

Social movements and tech activists frequently produce texts, documents, archives, records, and how-to guides explicitly designed to serve as training materials that will enable other social movements to adopt new horizontal communication tools and skills. These serve as a kind of application software to be run on social movement operating systems; a language of code for struggle. This code circulates in all media (there are how-to guides in text, with photo illustration, podcasts, video manuals, DVDs, etc.) and are themselves transmitted both through spaces of flows and spaces of place.

In addition to time-synchronous exchange between activists, there is asynchronous exchange via documentation of practices and technical knowledge. Experience gained in movement media-making is sometimes preserved in training manuals, checklists, how-to-videos, papers, books, and other forms of documentation. These kinds of texts are often produced by organizations whose mission is to enable broader participation in media and communication. Amnesty International's Tactical Notebook series, discussed elsewhere above, is a good example. Similarly, human rights video training and documentation organization Witness have released several online and video shorts describing how to use video as a tool in human rights campaigns, as well as a recent book on the subject.[139] Perhaps the best example and one of the most extensive repositories of documentation produced by autonomous communicators embedded in social movements is the Indymedia Documentation Project (mentioned above). This is a wiki that is shared by the entire Indymedia network (although some IMCs have local wikis as well), and is used for everything from drafting feature stories, to documenting best practices in organizing convergence centers, to documentation of software tools by Indymedia techies, and so on. It is multilingual, and contains documentation about nearly every aspect of radical media practice, as well as some theory developed within the network.[140]

There are also some spaces within the academy that provide support for careful

138Huey (2005).
139Gregory (2005).
140See http://docs.indymedia.org

documentation of autonomous communication. Groups like the political economy and community media sections of the International Association for Media and Communication Research[141] are friendly to academic work that documents social movement media practices, while the international OurMedia/Nuestr@sMedios network has been entirely dedicated to research and investigation into community, social movement, and autonomous communication.[142]

CONCLUSION

These notes provide a broad overview of some of the recent developments in the use of horizontal communication tools by networked social movements. I have described innovations in these techniques and technologies and the networks, actors, spaces, and codes that circulate them. One key point that emerges from examining social movement activity is the differential levels of access to various communication technologies both within and between social movement organizations and networks. Another is the multimodality of communication practice, the rapid adoption and in some cases innovation in new tools and software, and the creative combinations of old and new communication tools. Also key is the role of pre-existing actors, spaces, and networks in adopting and diffusing new tools and skills.

This preliminary overview generates new questions and exposes several important gaps in our understanding of how horizontal communication tools are used and developed by social movements. First, more detailed data and analysis regarding social movement use of the tools listed here is lacking. For instance, we have little fine-grained data on how many, and which kinds, of organizations and networks use email, blogs, wikis, etc., on a daily basis for horizontal communication. We have no systematic estimate of the number of social movement organizations and networks that are generating podcasts, vlogs, or streaming rich media content. Nor do we have a clear study of the ways in which social movement use of horizontal communication tools may mirror access inequalities in the general population, or perhaps in other instances may have made progress in reducing these inequalities. Second, it is critical that we develop a nuanced understanding of the processes of recuperation, appropriation, infiltration, and adoption, whereby tools, skills, content, organizations, and individuals from social movement networks are transferred from horizontal use to vertical use by political parties, professional NGOs, states, firms, and other institutions. Especially important here would be an analysis of the rise of a layer of Application Service Providers, or professional firms that sell complete 'e-activism' packages to social movement organizations and political parties. Third, this study is incomplete without analysis of the role of surveillance and repression in the use and diffusion of horizontal communication among social movements. On the one hand, we might expect heavy surveillance and repression to block horizontal communication; on the other, we might find horizontal communication 'routing around' repression. Historically both have been the case. Finally, more attention should also be paid to the relationship between communications policy and horizontal communication. This has become a more common question for discussion as horizontal communication has gained visibility, and a critical one as incumbent pipeline industries gear up their armies of lobbyists in attempts to overturn the principle of net neutrality.

This last question is critical, particularly since an Internet based on contracts between content providers and pipeline industries would likely end up looking much more like cable television than like the Internet as we know it today. If that happens, social movements and tech activists will still find ways to combine the net with other tools in order to amplify horizontal communication, but the space of horizontal communication may be pushed further to the

141See http://iamcr.net/
142See http://ourmedianet.org/

margins. Hopefully future researchers will take up these questions and help provide a balanced and informed perspective on the relationship of communications policy to horizontal communication, democracy, and social justice.

APPENDIX

Figure 3: Main Source of News (US, June 2005)
Source: Pew Research Center for People and the Press (June 26, 2005):
http://people-press.org/reports/display.php3?ReportID=248

Online Newspapers Gain Foothold

Main source of news[1]	Total	18-29	30-39	40-49	50-59	60-69	70+
	%	%	%	%	%	%	%
Television	74	70	63	74	76	85	83
Newspaper	44	37	39	41	52	50	57
Internet	24	36	31	29	18	9	3
Radio	22	18	26	24	22	19	19
Magazines	5	5	7	4	5	5	6
Read newspaper...							
Mostly in print	40	32	33	36	48	48	54
Online version[2]	16	23	20	21	11	7	2
NET with online	*56*	*55*	*53*	*57*	*59*	*55*	*56*
Get news online every day	23	23	33	27	24	15	7

[1] Figures add to more than 100% because respondents could mention up to two sources.

[2] Includes people who say the internet is their main source and read newspapers online. Newspaper readers also were asked if they mostly read the paper in print or online.

Figure 4: Indymedia traffic compared to DailyKos.com.
Source: http://www.alexa.com

Indymedia / DailyKos.com
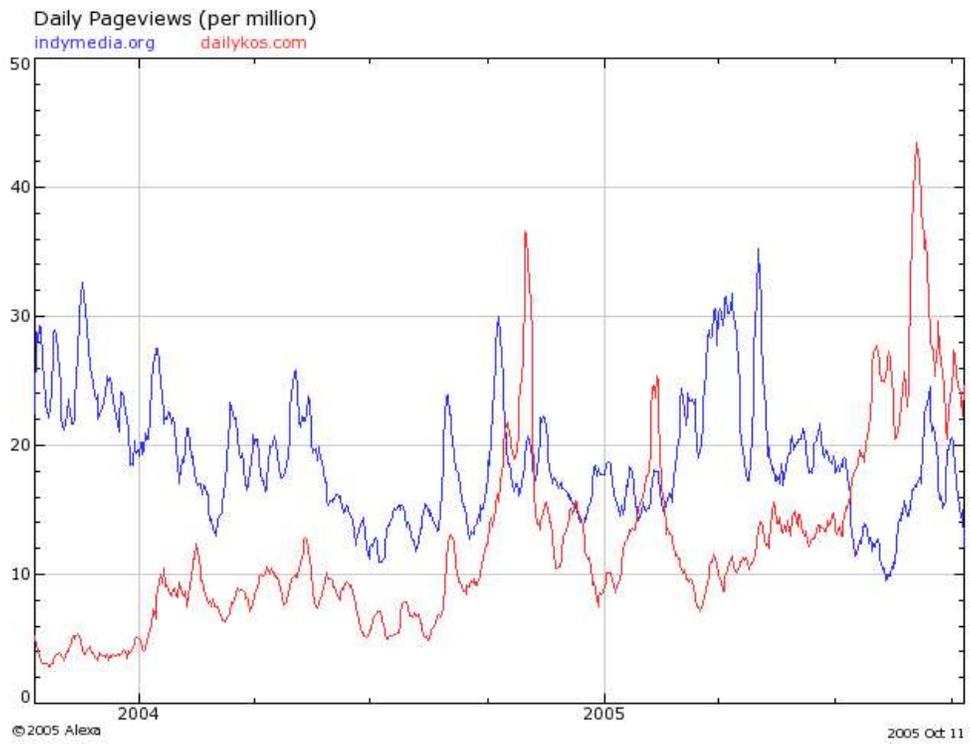
Figure 5: Blogs by language (February 2006).
Source: http://www.blogcensus.net/?page=lang

Type	Count	
English	1958443	
Too_short	284749	
Catalan	123320	
French	83950	
Spanish	80509	
Portuguese	71561	
German	35870	
Italian	26659	
Chinese-big5	25123	
Farsi	19730	
Chinese-gb2312	19324	
Japanese	18576	
Dutch	13133	
Danish	9870	
Indonesian	8831	
Malay	6658	
Japanese-euc_jp	5413	
Swedish	5267	
Czech	5089	
Icelandic	3776	
Tagalog	3608	
Finnish	3326	
Turkish	2817	
Esperanto	2803	
Slovak-ascii	2592	

Figure 6: A, B, and C-list Blogs (February, 2006).
Source: "The Long Tail." New York Magazine. February 20, 2006.
http://www.nymag.com/news/media/15970/index.html
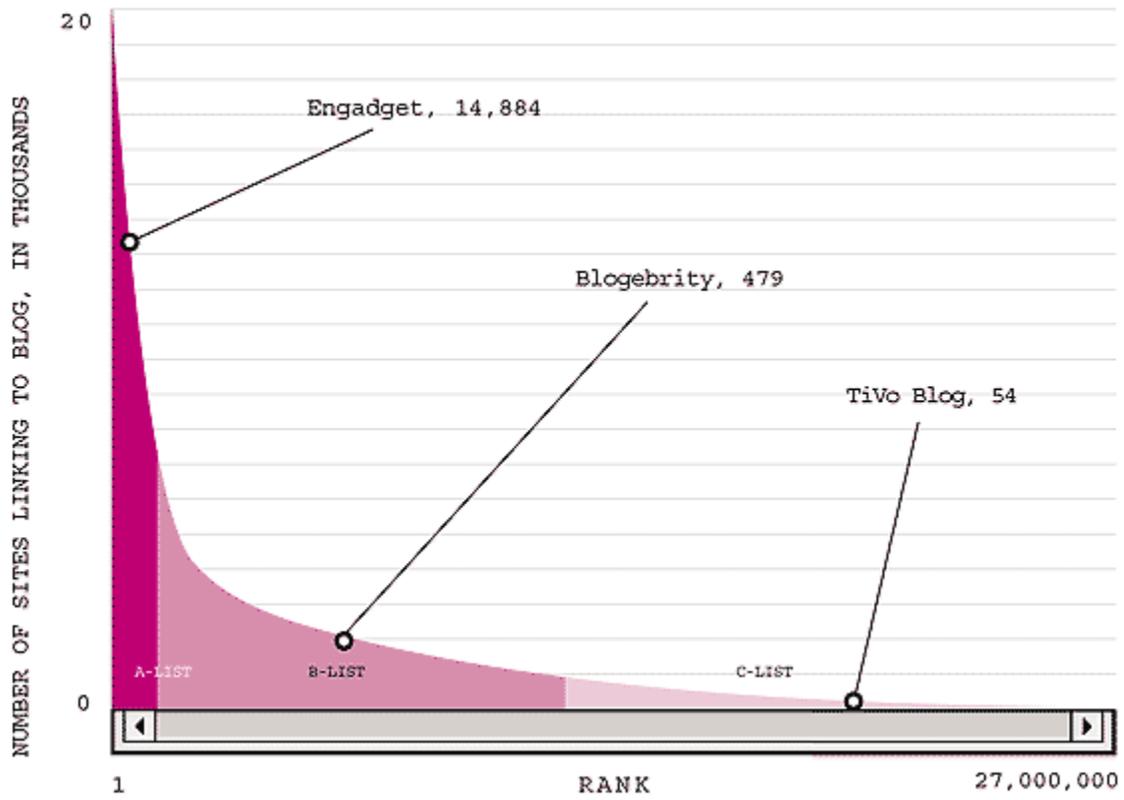
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