“Some people want to build counter institutions, some just want to play their music.”

During the summer of 2000, I spent one week cooped inside the ladies lounge of a post-war, moderately run-down community building aptly named Patriotic Hall in the grittier part of downtown Los Angeles, along with fifteen or so other radio geeks like myself. We were the audio team for the Los Angeles Independent Media Center (Indy Media) and it was August. It was also the week of the Democratic National Convention and hundreds of activists and media makers had organised in LA to provide non-corporate coverage of the demonstrations led by anti-global capitalists, labour unions, and other disenfranchised groups on the left.

Los Angeles Indy Media rented out the entire fifth floor in the Patriotic Hall, but for some reason, us audiophiles were thrown into a makeshift production room lacking all creature comforts of air conditioning, ventilation, and space. We were equipped with our oscillating fans brought from home, makeshift trial versions of software for editing pieces, and live twenty-four hour a day streaming radio using free Real Player software that of course required rebooting every hour. We broadcast everything from interviews with the Direct Action Network, advocates for the homeless, up-to-the-minute reporting from the street, live call-ins from jailed bicycle marchers with Critical Mass, as well as music such as live performances from Rage Against the Machine recorded with hand-held mini-disc players. It was hot, sweaty, frustrating, and fulfilling.

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1 Amoshaun
I come to this as both a researcher and a participant. I’ve been a part of Indy Media UK in London for the past couple of years since moving there for my post-graduate degree. To be a part of Indy Media is to want it to succeed. Yet, it is difficult to have the space for analysis despite the reflexivity and elasticity of the network. Indy Media is a network of independent media organisations under the IMC banner and hundreds of individual journalists offering grassroots, non-corporate media coverage of major protests and issues relevant to the anti-global capital and peace and social justice movements. Indy Media is both a global network and over one hundred local organisations. What is most particular to Indy Media is its organisational committed to an anti-authoritarian and consensus-based decision making process, and its open publishing website, whereby the majority of content comes from individual visitors to the site.

Indy Media publishes print, photos, video, and audio. This paper, however, is about radio. In this transnational era, necessary and important focus has been given to the future of digital, satellite and internet radio as a means for increased flow of information and culture irrespective of geographic boundaries. At the same time, however, radio remains primarily a local experience. The projects that have both arisen out of and are connected to the audio collectives of the Independent Media Center bring these two together as a space where the “hyper-local” and “hyper-international” meet. (Amoshaun) These radio projects are about collective responses to technological and social needs of both listeners who are visitors to the sites and increasingly, local community and Indy Media radio producers in search of content from worldwide sources. This will be further explored through the following examples from Indy Media Seattle, London, Los Angeles, and the global audio collective.

**Why Indy Radio Now?**

Though broadcasting itself can be argued to be a social innovation rather then a technological one (Seaton), there are in fact both reasons for such a surge in audio interest. It is low-cost and relatively easy to produce, access, and broadcast quality audio. There is also increasing opportunity for listening, both on-line and through unlicensed

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2 For a thorough analysis of the Independent Media Center see other papers from this panel: Sheri Herndon,
micro radio stations. Further, there is increased awareness of the need for alternative radio spaces as greater media consolidation looms, and the movement in support of legal low-powered FM gains support. Finally to mention here, is the emotional and cultural relationship we have with radio. The melding of music and politics in an often seamless fashion is much more reflective of most people’s actual tastes and interests than is the formulaic structure of corporate radio. At its best, radio is about the intimacy between the voice and listener, and for Indy Media, the power of hearing first-hand the raw emotion expressed in the voice of those sharing lived experience.

LOCAL INDY MEDIA RADIO PROJECTS

“It’s a small world of people who do independent radio production because there’s a limited space for it to get aired.”

The audio collective is one of many working groups within the Independent Media Center. Like everything else within Indy Media, organising takes place on both the global and the local level. In most cities and/or regions with Indy Media organisations, there exists some kind of on-line audio content, and in some cases, local collectives produce a weekly radio show for their community radio station. As we will see in the case of Seattle and Los Angeles, there are also full-fledged internet radio stations that have emerged. Most of the station programming is music-based, though there are a number of public affairs shows, news, spoken word, broadcasting of political speeches from luminaries like Noam Chomsky, etc. It can be argued that even when content is not itself of a political nature, the act of broadcasting as a collective is very much a political act of reclaiming the airwaves.

Radio X, Seattle

Audio streaming and production has been a part of the Indy Media project from the start. In Seattle, 1999, during the massive anti-WTO demonstrations and the birth of the IMC,

Pablo Ortellado, Pablo Boido, and Luz Ruiz.
3 Calloway
4 See Sheri Herndon’s paper for more on the history of Indy Media and the global network
radio was an integral piece of the media landscape along with text, photo, and video. Studio X was set up to broadcast twenty-four hours a day during the week both online and on FM via a pirated low powered signal. The station broadcast the sounds and voices from the street in the form of interviews, call-ins, live reports and updates, in addition to music, produced in-depth pieces, and live interviews from jailed protestors.

For two years following, the station broadcast online from Speakeasy.net, a local coffee house and internet service provider. Speakeasy offered a free backroom to house production as well as free bandwidth and internet access. Unfortunately, a fire forced the station out of that space. The station is now in their ‘third phase’ (Amoshaun), called Radio X, and have moved into the IMC space in downtown Seattle. The group has been reinvigorated around new faces and new energy, the neighborhood-based micro-radio movement in Seattle, and the media activism surrounding demonstrations at the National Association of Broadcasters (NAB) meeting held in the city last September. (ibid)

The Seattle IMC heartily encourages the expansion of low powered FM stations and micro broadcasting but has no legal relationship with the stations in Seattle who engage in it. In a clever move that is mirrored in other cities, Radio X itself broadcasts only online. Their broadcast, however, is carried on a number of neighborhood micro radio stations. This results in a decentralised means of operation whereby content production is separated from distribution. Should an unlicensed FM broadcaster get caught, they would only loose transmission equipment and nominal production gear rather than a full broadcast studio of more expensive and more plentiful production equipment. This is clearly a model of shared responsibility only possible through a decentralised network of community activists.

“Micro radio fits nicely into that neighborhood model.” (Amoshaun) As a result, the number of 3-4 watt micro radio stations has increased, and includes stations like Rif Raf Radio serving the community of Maple Leaf Hill. Most micro FM stations in Seattle simulcast Radio X live for a majority of the day, and might also include their own neighborhood information and music programming. To further break down this space where the hyper local and hyper international meet, about 80% of programming on Radio
X itself comes from news and public affairs shows culled from other Indy Media and community radio webcasts from around the US and other parts of the English-speaking world. For example, a typical day might include the morning news from KBOO in Portland, Democracy Now! from Pacifica Radio in New York, the Indy Radio Show from Houston, and the Indy Radio show on Resonance FM from London. And most of these shows themselves pull from an international array of original audio and stories from stations and Indy Media sites around the world. The remaining 20% of program schedule for Radio X is produced in-house of which 80% is music. Radio X thus participates in an ad hoc network model run collectively in a decentralised fashion utilising free and non-copy written material shared through a global exchange facilitated in part by the Indy Media project.

Los Angeles

KILL Radio

KILL Radio, tag line KILL Corporate Radio, emerged out of the local LA Indy Media Center following the Democratic National Convention protests in August, 2000. KILL is a non-hierarchical community radio station and a successful example of a station based wholly on the consensus model of decision-making. “I feel the main reason KILL is important is because it’s a collective, with a shared mission and vision…At KILL, it’s your station. If you don’t want the social responsibility to the group, fine. Go do your own thing because that’s not what KILL is about…If you agree with the project, the power is there to be shared.” (Burnett) KILL Radio is as an online station that is also unofficially simulcast by a separate entity on an unlicensed frequency – a frequency that not coincidently has been home to many of LA’s pirate stations due to its unique location on an immensely crowded bandwidth that does not interfere with any licensed station signals.

KILL broadcasts primarily music. “Music speaks to people in a way no other medium does. It’s not a coincidence that more people are attracted to pirate radio because of the music, and that more kids are interested in music then in media production or public affairs. KILL is the power of that expression.” (Burnett) There is a news hour from 6-7pm and a few other public affairs shows on air, though some DJ’s blend a mixture of
music and spoken word or political speech within their program. Overall, programmers are left to program what they want. “KILL radio’s market is in the diversity of the programming of not knowing what you’ll get when you turn it on.” (ibid)

**Indy Media On Air**
The LA Indy Media audio collective produces two radio shows, one for *KILL Radio* and one for local Pacifica radio station *KPFK* with an expansive listening audience that reaches most of Southern California. *Indy Media On Air* is described as “a weekly digest of independently produced news, documentary and commentary audio from around the world.” (http://KPFK.org/) The show began when *KILL* approached the local Indy Media group (with whom they also share office space) about producing a show culled from the many Indy Media websites. At the time, Caycee Calloway was one of the few people actively working on the local Indy Media site. She reluctantly agreed to take on all six hours of programming a week *KILL* asked Indy Media to produce with the agreement that some hours may be filled by broadcasting produced programs like *Democracy Now!* and *Alternative Radio*. Not long after, Calloway was also approached by *KPFK*’s then-Interim General Manager Steven Starr. Starr wanted to broadcast a similar program to what was being produced on *KILL*. Both shows have been on air now since 2002. And since then, the LA Indy Media audio group has grown in size and produces the show as a collective.

Even with additional production support, Calloway notes: “it became clear to us early on that we couldn’t produce the show with just IMC material…One problem with Indy Media is that people will go out and record a lecture or event and upload it without any introduction or editing…If I pull something up and find it’s two hours long you know no one is really going to listen to it. Myself included.” She further commented on the difficulty of finding enough content in English to meet her program requirements at *KPFK*, which are to include as much international news as possible. Here again we see community radio stations reaching out to Indy Media content and links to broaden the scope of global issues and voices being broadcast in an otherwise local context.
**London IMC and Resonance FM**

The London IMC radio collective produces a program similar to that in Los Angeles called *Indymedia News Wire* self-described as “news updates from the independent minded website crew.” (resonancefm.com). The program airs on *Resonance FM*, a low-powered community radio station in central London created by British government’s Access Radio pilot program overseen by the Radio Authority. *Resonance FM* is “London’s first radio art station” and is overseen by the London Musicians Collective (LMC). They have been on air since February, 2002. There are few news-oriented public affair programs on the station in light of its unique mandate for arts and culture programming.

Activists from the London IMC were also involved in helping produce an unrelated one-hour, live daily public affairs show on Resonance FM in the week leading up to the start of the recent war in Iraq. The show was controversially entitled *Entertaining the Troops*.

“The show arose because Resonance, being the station that it is, likes to have high turnover on its schedule and lots of new programming. It seemed appropriate to station managers (Ed Baxter and Knut Aufermann) that the stations should have a response to the primarily uncritical establishment party line…Everyone at Resonance got an email from Ed saying lets do something with a bite on the side of people protesting the war rather than the canned experts tacitly in favor of it.” (Spinelli)

The show was a success in many ways and a logistical nightmare in others. This is due to the technical aspect of broadcasting a daily live talk show from a remote location, the need to maintain strict editorial independence from *Resonance FM* to protect their arts and culture license, and other internal conflicts within Indy Media surrounding production of the show. *Entertaining the Troops* was cancelled after two weeks. The

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5 Access Radio is the kind of third tier of broadcasting micro radio activists have been lobbying for in the US, alongside commercial broadcasting and public radio/public service broadcasting. Such radio was approved by the FCC last year only to find the vast majority of stations put on hold by Congress for additional review as a result of lobbying pressure from the NAB and surprisingly to some, NPR. “Access Radio has the potential to provide communities with something quite special, a unique radio service which they run themselves. A diverse range of people can work together to improve and regenerate their community, though this type of radio.” (Tessa Jowell, Secretary of State for Culture, Media and Sport writing the introduction to government’s report of the fifteen station pilot project.)
optimistic mood that prevailed despite the difficulties can be summarised as follows: “Out of this, new radio projects will evolve. If you put something on a legitimate channel and people get organised around it, it will continue even if the channel falls through… unlike television where if a station cancels your show, you’re screwed. You can always find a way to broadcast radio.” (Quinine)

GLOBAL RADIO SITE

Radio.indymedia.org

Radio.indymedia.org is a “collaborative website serving the global Indy Media network intended to help create and distribute radical radio programming.” The site was set up about three years ago and launched around the demonstrations at the meeting of the FTAA (Free Trade Area of the Americas) in Quebec in 2000. It was the first site to attempt global co-ordination of the audio efforts among Indy Media.

The site is accessed directly from the global Indy Media home page and local Indy Media audio pages. The site itself is home to an array of community radio resources and audio programming whose look and structure loosely follows that of the Indy Media sites. It has undergone a few developmental changes and is in the process of undergoing further restructuring to improve utility and clarity. Specifically, the site includes links to open access radio portals such as radio4all.net, independentaudio.org, and microradio.net, as well as an ever-expanding list of local community radio and syndicated programming available, webcasting stations, and community radio stations. Additionally, there are audio archives from special event programming such as coverage from the massive anti-war demonstrations and audio-related postings.

The Global Newswire & liveradio@indymedia.org

There are two key features on the global radio sight that should be mentioned. The first is that as of summer 2003, the global radio collective launched a continuous radio stream

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6 (from radio.indymedia.org)
so that listeners could hear twenty-four hour a day audio from various local indy media’s in real time. The globally coordinated stream runs on software that takes audio streams from individual sites and automatically switches from one to the next as the program schedule dictates. The second significant site feature is the global newswire, which is an automated syndication newswire that mirrors (duplicates) audio from other local Indy Media sites so audio files can be found in one centralised location. The software was written by Alan Bushnell who explains: “you have all this audio from over 100 local Indy Media sites hosted on about 30 servers around the world and lots of people constantly searching these sites on a weekly basis trying to find audio for their local radio programs. There had to be an easier way.” Sounds quite simple, but due to the decentralised structure of the Indy Media network, only about half the servers are currently set up to do so as it requires additional steps be taken by local Indy Media tech people.

Radio Against the War

The surge in audio streaming mobilised around the peace movement should also be noted. A number of Indy Media activists from Washington, DC contributed to Peacewatch, a special syndicated program from Pacifica produced out of their own WPFW. Ithaca Free Radio and Enemy Combatant Radio both began live twenty-four/seven webcast streaming in response to the war, continue webcasting today, and can be heard on the global coordinated broadcast stream. Content continues to be uploaded to the audio newswires as more stations began streaming audio.

Euro Radio

It should also be noted that plans are in the works for regional audio stream coordination in Europe, but there has not been enough internal response from a proposal earlier this year to make it happen as of yet. There is a website under construction, but temporarily abandoned (http://euroradio.indymedia.de) to create such an audio stream portal. The site text describes the mission of the project:

The EuroRadio Website will link to free/alternative radio streams by European radio groups and media activists. We hope to initiate a network of regular programmes which you can access from this site.... So, for example, on Monday
night Indymedia Radio Berlin would bring you the latest local and international news plus some of the latest tunes from the German capital. On Tuesday at the same time, IndyRadio Austria would stream live from Graz. On Wednesday there would be an hour-long show from London, on Thursday you would get the latest from Catalunya…Check this space…

There is another attempt at European-wide radio streaming called Radio Autistici (http://radio.autistici.org/). The site features an automated system through which web streamers can choose to participate in by adding a command line in their stream program. These efforts are distinct from many of the local Indy Media projects previously discussed as the programming is multi-lingual, though primarily a mix of English, Italian, Spanish and Dutch. The best comparative example of community radio that flows almost seamlessly from language to language would be Radio Multi Kulti in Berlin, a station that broadcasts programs in eighteen different languages - and not one in English.

Finally, for further comparison, I’ll mention a couple of Indy Media-related audio projects in Germany that demonstrate how similar many key issues are across geographic borders. In Hamburg, programmers are currently developing a relationship with the local alternative Radio FSK to stream FSK on their webcast and share content with the station. Indy Media Berlin is starting to stream regular programs and at the same time, are campaigning for a local, low-powered FM license.

ISSUES

Resources

There are a number of key issues that arise out of a study of Indy Media radio projects. First and foremost are the issues common to Indy Media in general and should ring familiar to most anyone involved in volunteer projects, and that is the need for greater resources, both technical and personal. With regards to audio specifically, even with the increase in high-speed internet connections, there are of course disparities and inefficiencies inherent in the process. “A lot of people produce audio that never gets uploaded. I myself rarely upload what I produce for the archives because it is so time consuming even with a high speed internet connection…Downloading is easy, uploading
is what takes so long.” (Calloway) Further, there is of course an even greater disparity of resources among Indy Media’s in less technologically developed countries.

In developing the global radio newswire, it became clear to Bushnell the complexity of trying to implement network-wide systems with such different technical standards across local Indy Medias. There also exist disparities among server capacity, in other words, the ability for a site to provide and a listener to access audio during a heavily trafficked period online. One solution that was created to provide extra server space for event broadcasting was **D.R.O.P. – Distributed Radio Open Publishing**. D.R.O.P. creates a robust webcasting network by enabling servers to mirror other servers thus expanding capacity to allow more people to access audio without crashing the system. D.R.O.P. was used, for example, to provide the necessary additional bandwidth for webcasting during recent high-profile actions such as those around the World Social Forum in Porto Alegre and the World Economic Forum in New York. It is an internal function that the casual listener would never notice, but is a significant network infrastructure improvement that is organised on an ad hoc level as needed.

**Work Repetition**

There are a number of people individually producing radio programs on local broadcast community radio stations using content from Indy Media. The format is largely the same and consists primarily of produced audio found on the local Indy Media sites from particular events in addition to copy written stories from print articles on Indy Media. The global newswire helps eliminate some of the time-consuming work of trolling through all the local sites searching for audio content, but it is limited in that it covers only half the sites. And, in a world of limited voluntary resources and unlimited ideas and projects to be undertaken, there is a fair amount of repetitive work being done by those spending hours searching for audio, articles, and translations. There are current efforts underway to bring together those working on such projects. Time is very much a key resource and means of eliminating repetitive tasks among the network and for other independent media producers would be welcome.
**Language**

Further related to resource issues facing all Indy Media projects is the question of language. For those broadcasting Indy Media programs on local community radio stations in the US and UK, the need for translation of stories has severe limitations on the diversity of content that can be accessed. At present, it seems this is being addressed on the local or regional level with individual producers trying to bring those with multiple language skills into the fold. In London, for example, there is genuine excitement around a new volunteer who speaks Russian, Czech, French, Spanish, and English and has been able to bring a whole new level of depth to the stories being covered on their local Indy Media show for Resonance FM by translating stories directly from non-English language sites. The issue of English language broadcasting also raises the question of audience in a transnational context.

**Ogg Vorbis v MP3**

There is an internal debate at present as to the preferred format for audio files and streaming. This debate is not, however, simply about tech people trying to out-tech each other. The issue touches on fundamental organisational and philosophical principles of the Indy Media network, namely that of decentralisation and local autonomy, as well as the support and promotion of non-proprietary, open source software. Ogg Vorbis is a “completely open, patent-free, professional audio encoding and streaming technology with all the benefits of Open Source” (vorbis.com) that is technologically superior to the standard MP3 (Media Player 3) format most use. MP3 is also patented technology run by a for-profit company.

The problems of making the switch to Ogg again mirror those of the network. The first and most basic being the fact that it is a time-consuming and labor-intensive process to

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7 The derivation of the name Ogg Vorbis must be noted. “An ’Ogg’ is a tactical manoeuvre from the network game ’Netrek’ that has entered common usage in a wider sense. From the definition: To do anything forcefully, possibly without consideration of the drain on future resources. ”I guess I’d better go ogg the problem set that’s due tomorrow.” “Whoops! I looked down at the map for a sec and almost ogged that oncoming car.” Vorbis, on the other hand is named after the Terry Pratchett character from the book _Small Gods_. The name holds some significance, but it’s an indirect, uninteresting story.” See [http://www.xiph.org/xiphname.html](http://www.xiph.org/xiphname.html) for a more detailed response to the query *’what does your name mean?’*
reconstitute an audio site into a new format and with limited resources it is difficult to justify putting energy into something that works as it is. “In Seattle, it’s all we can do to maintain our MP3 stream. We can’t put energy into changing systems.” (Amoshaun) Further, and perhaps even more practical, is the fact that not all audio players support Ogg thus rendering it difficult for many listeners to access the audio at all.

At the same time, there are those who say Indy Media should take a more proactive stance to the evolutionary dilemma of “the chicken and egg problem” (Bushnell) with regards to integrating open access software. Perhaps such a process can be facilitated by providing more links for listeners to learn more about the benefits of particular open access software and assist in accessing audio players that support such software. In the meantime, plans for a co-ordinated global stream to broadcast during the most recent day of global anti-war demonstrations failed in part because of an inability to consense on the format. Though this last section may have delved too far into anorak territory for some, it seems a highly useful example to showcase the levels on which ideology rightly permeates structural decision-making within Indy Media. Regardless of the immediate outcome, the right questions are at least being asked.

**Who is the site for?**

In this section, I am purposely steering clear of the question of how many people listen as I think it is too often used to undervalue the collective impact of alternative media projects. On a practical level as well, it is far too difficult to survey. Further, this last issue to be discussed is also one of utility and function. The site is for both the casual listener who visits Indy Media and the local program producer in search of stories from Indy Media’s around the globe. There are multitudinous links being made within the Indy Media network as a result of both the global and local audio programmes. It also seems the number of connections being made outside the network to the greater world of community media is strong among audio collectives. The content sharing that exists is highly effective, despite some practical issues, and enables local micro-radio broadcasting to be both hyper-local and hyper-international (Bushnell) at the same time.
As the Seattle example demonstrates, a low-powered community radio station can include news on a neighborhood level and at the same time pull grassroots news from other localities around the world.

By comparison, a typical National Public Radio (NPR) local affiliate station broadcasts overwhelmingly national news and public affairs, and depending on the station, most likely features nominal non-music local programming. For example, NPR affiliate KCRW in Los Angeles, arguably one of the most high-profile and well-funded public stations in the country, produces only nine hours total of in-house public affairs programming a week, with only three of those hours specific to issues facing Southern Californians. Conversely, KCRW produces eighty-seven hours of music programming a week and broadcasts roughly a further eighty-seven hours of nationally syndicated public affairs and talk. Given that music is far cheaper and easier to program than resource-laden public affairs production, and often provides a welcome alternative to corporate radio music programming, the disparity in these figures nevertheless resonates a growing divide, and mirrors public radio around the country.

To return to the question of who the site is for and how it can best be used, we return to the multiple users on the radio sites. There are the individual listeners who select from among the linked stations, streams, and uploaded audio files such as a particular interview, coverage of a specific demonstration, and general personal listening pleasure. There are also the producers of community radio and Indy Media audio programs looking for content to include in their shows. And now there is a twenty-four hour a day global stream for both listeners and producers.

For producers, there are a couple of options being considered. One is to package audio content in a syndicated format not unlike OneWorld Radio, which compiles a syndicated program from radio produced by local affiliates for community stations to broadcast. Another is to integrate Indy Media content into a file-sharing network similar to Napster whereby facilitating a more centralised point of exchange for audio. Further, some have suggested Indy Media host and facilitate an open access file-sharing network like Napster for independent music. “As copyright protection interests crack down on non-copy
written material, the door is opened for the free exchange of ‘unprotected’ productions.’” (Bushnell) Others have advocated expansion of the network model on a national scale through the creation of a countrywide string of micro radio stations all broadcasting the same signal. Yet another is to create a more formal group of stations who say they want to be a part of a global broadcast network complete with greater detail of programming offered at what time with the potential for webstations to eventually update their own online schedules. To further complicate the possibilities, there is a caveat to the free sharing of produced content from Free Speech Radio News (FSRN). A producer there voiced concern that FSRN could set a dangerous anti-labor precedent if they started pulling free audio as it would take away from money they would pay a correspondent and they have an expressed commitment to pay for stories. Their commitment and ability to pay people for stories is an exception to the experience of most community radio producers, but is nevertheless a concern worth mentioning as it speaks again to the broad question of resources and time for those involved.

**Conclusion**

“There is a window of opportunity right now with internet broadcasting and audio accessibility and we must seize the moment as people are.” (Amoshaun)

At the very least, it seems those doing the work have made strong progress in the recent creation of the global radio broadcast, and in sifting through the organisational dilemmas and potentials at hand. In general, the Indy Media project can be identified by the level of self-reflexivity among its participants. “Individual responses to social problems are what’s typical in American society. Why not have a collective response?” (Burnett)

The core issue for the Indy Media project “is about building networks of communication among the global and local networks, and the radio piece is one medium that’s trying to facilitate the movement.” (Amoshaun) The war has (re) politicised people on new levels and the resurgence of activism is profound. Within the Indy Media movement, local media organisations that had perhaps gone a bit adrift have rekindled new energies. The early potential of radio was realised through the efforts of amateurs and non-licensed
hobbyists. (Walker) Though new technology makes possible this convergence of on-line and traditional broadcast mediums, the future may again be up to those outside the commercial industry.

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