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The Social Organization of Audio Piracy on the Internet

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Abstract

In this paper we describe and analyze the emerging audio piracy (MP3) subculture on the Internet. We present the first sociological analysis of this system—a ‘virtual community’ that is literally revolutionizing the production of popular music. We seek to explain not only the internal social structure of the MP3 community, but also strive to understand how the entire global network of musical distribution and production may be impacted by its activity. Particular attention is paid to the role structure that operates within the audio piracy subculture, issues of status and power, the division of labor, as well as questions of social conflict and resolution. The conclusion offers some speculations concerning the impact of MP3 technology on the trajectory of popular music.

In this paper we describe and analyze the emerging audio piracy (MP3) subculture on the Internet. As is evident to even the most naïve observer of the contemporary landscape, the explosion of Internet based communication is radically redefining the nature of social relationships in modern societies if not creating altogether novel forms of social interaction (Lyotard [1974] 1991; Stone [1995] 1996). Yet sociologists have yet to take the Internet seriously as a site of ethnographic investigation. Where sociological observation concerning the Internet exists at all, it is through vague generalizations and unqualified assertions about what these new virtual forms of communication portend (Kellner 1995) for ‘society,’ which offers little in the way of concrete social research.

We attempt to advance sociological study of ‘virtual communities’ by embarking on an extremely focused study of one particular Internet subculture that is literally revolutionizing the production and consumption of popular music—audio pirates. Audio piracy, in a very basic sense, refers to the process of methodically encoding copyrighted music and distributing it without paying royalties. In our day, these encodings take place in a rich and highly textured social system mediated by electronic communication networks.

Audio pirates operate in a complex and highly structured social and economic environment that has its own particular matrix of roles, norms and mores. We present the first sociological analysis of this system, one that seeks to explain not only the internal social structure of the MP3 community, but which also strives to understand how the entire network of musical distribution and production around the globe may be impacted by these developments. In analyzing the social organization of the audio piracy

subculture, we aim to communicate three main concerns: (a) the activities of audio pirates; (b) how they maneuver in cyberspace; and (c) the underlying motivations for the audio piracy movement.

This essay unfolds in the following way. The first two sections of the paper constitute a technical primer that we think is necessary for the reader to understand the social interactions which take place within audio piracy communities. Audio pirates utilize multiple (and often simultaneous) modes of communication and speak in a dialect heavily laden with technological jargon. In order to make this language more accessible to the reader, we first describe, in simple terms, the programs, networking protocols, software, hardware, and file formats that make up the technical framework within which audio pirates do their work.

In section three, we begin our foray into the audio piracy subculture by analyzing the role structure of this virtual community. Our observations were obtained by assuming the persona of an audio pirate-*_sub-bass*-on a daily basis for a period of several months in 1998-1999. In section four, we analyze the main status symbols and power signifiers that *_sub-bass* discovered during his sally into the audio piracy subculture. Section five turns to the division of labor within the sub-culture, before concluding with an examination of social conflict and resolution within the audio piracy community.

I. Technical Background: What is MP3 and how does it work?

Audio piracy communities are submerged in a sea of electronic networks, without which they could not survive. Navigation upon this sea requires proficiency with a variety of tools and techniques in order to seek out others with similar musical interests and thereby exchange audio files. In this section we present a skeleton key to the nodes and networks of that web.

MP3 is a subset of MPEG-1, a file format and set of algorithms designed by a consortium of industrial players called the Motion Picture Experts Group in order to compress audio and video files for the purposes of quick and efficient file transfers. An MP3 file is an MPEG-1 file without any video information, and uses only one encoding scheme. An MP3 file does not simply store the sonic data in raw format (like a Windows *.wav* or Macintosh *.aiff* file) but instead stores the sound as inputs to a continuously varying set of complex differential equations which approximate the sound's change over time. This encoded sound is then played back dynamically by performing a mathematical translation on the stored information to reproduce over time the song's evolution within the timbral domain.

MP3 files are tremendously more dense than raw audio data. For example, a five minute song at standard CD quality expressed as raw data is 52,920,000 bytes [$44,100$ (sampling rate) \times 2 (bytes per sample) \times 2 (channels) \times 300 (sec) bytes], while a five minute song compressed with MP3 with the usual encoding options is only 4,800,000 bytes [$128,000$ (kbps encoding rate, 2 channel) / 8 bytes per bit \times 300 (sec) bytes]. This 11 fold increase in data density makes it possible for the average Internet user to participate quite easily in the exchange of audio files. A telephone modem (56K) can

transfer one 4.8 minute song in about 11 minutes, a cable modem can transfer one in 48 seconds, and faster links make transfer time almost a non-issue entirely.

With the rise of commodity hard drives, storing huge amounts of MP3 files is extremely efficient and affordable. At the time of writing, a hard disk drive capable of storing 16,800,000,000 bytes of information (or about 3500 five-minute songs) costs \$244 (US), which is less than 7 cents per song. These songs are instantly available for playback and can be categorized in an infinite number of ways using a plethora of software tools. This playback software harnesses the massive computational ability of modern computers to convert the MP3 file's encoded representation of a song back into audio data, which is then reiterated through a sound card into speakers or an amplifier. Moreover, some varieties of playback software can save the song as it is being converted to sound in raw format for subsequent 'burning' to recordable compact discs, which may then be played on regular CD players.

Encoding software is the flip side of the same coin. It converts a song in raw audio format into an MP3 file. Again, this process requires an incredible amount of computational power. Compressing a 5 minute song might take up to 25 minutes due to the asymmetric nature of the mathematical transformations involved, a process that makes encoding the most time-consuming part of contributing a new MP3 file to the community.

Another importance piece of technology are play-list editors, which allow an audio pirate's collection to be categorized, subdivided, and put into logical units for playback. For example, a pirate could design one play-list to randomly play jazz songs,

one to randomly play hip-hop songs, and one to play only works written by, for example, Tom Petty, and only those songs that were recorded in 1996. It is thus significantly easier to find a given song within a collection when listening to MP3 music than it is when listening to music in conventional recording formats.

Another characteristic that differentiates MP3 music from music conventionally recorded is that, until recently, MP3 files could only be heard by playing them back from an expensive computer—a device not particularly portable nor even available in most settings where music is played. Yet enterprising members of the MP3 community have already solved this problem. At the time of writing, there are two portable playback devices on the market, each selling for about \$200 (US) and are about the size of a pocket pager. Since they have no moving parts, they are completely skip-proof, far more sturdy than a CD ‘walkman’, and are extremely energy efficient.²

II. The Technological Facilitators and Emergence of the MP3 Subculture

The audio piracy subculture is inscribed and embedded almost entirely within the Internet. While exchanges of MP3 files are sometimes mediated by way of face-to-face interaction,³ most of the time exchange participants will never meet in ‘physical’ space. In fact, in many cases participants don’t even meet virtually, as parties often prefer conditions of anonymity. Before explicating the culture of online audio pirates, we first address the various communications technologies that make this subculture possible.

Finnish programmer Jarkko Oikarinen wrote IRC (Internet Relay Chat) in 1988 so that he could communicate simultaneously with multiple partners--a feature that the then-current synchronous text conversation technology could not provide. As the IRC program grew in popularity, it spread like wildfire around the network, and within months IRC was an Internet institution, pre-dating the World Wide Web (WWW) by two years and vastly surpassing it in popularity for at least another four. IRC is thus one of the oldest social institutions on the Internet, rivaled only by Usenet newsgroups. From its modest beginning as a method to bring a few people together in one forum, it has expanded into a massive international communication network. ⁴There are currently five major IRC networks, with hundreds of servers and thousands of users at any one time on each network, and dozens of smaller networks. The largest network, EFnet has, at the time of writing, 50 servers, all interconnected by high-speed links, and it serves 43,179 simultaneous users chatting in 17,410 channels. It is estimated that at any one time there are over 100,000 people on IRC, most of them extremely computer literate and network savvy.

IRC serves as the focal point for the audio piracy subculture. It is the electronic common ground to which all audio pirates return, and in which primary contacts are made and relationships formed. Each user selects a nickname (or 'nick') such as '_subbass,' 'niceGuy' or 'BiGFISH' to signify themselves. By selecting and joining a 'channel' from a larger set of alternative channels with varying access rituals, audio pirates come to be categorized by musical genre, type of computer connection, sort of pirate group, and other social attributes. Presently, of the 17,410 available EFnet

channels, there appear to be 135 channels devoted to MP3 file exchanges, with an average of 20 users in each channel.

The reader can gain an rudimentary understanding of the sort of communication to be found in these channels through the following example of a simple IRC session. We entered a channel called *#mp3leech*:

/join #mp3leech

Now talking in #mp3leech

> Has anyone got the new Method Man album, Tikal 2000?

<_sub-bass> Has anyone got the new Method Man album, Tikal 2000?

<z0rtie> beta is big h0zer

<fleg> yuh

Our discourse (as ‘*_sub-bass*’), is distinguished by the symbol ‘>’ which precedes our text as we type into the IRC client software. This discourse is then echoed back as the other users see it when it goes out through the network and comes back into our client. In this extract, we can also see the random conversation of two other users named ‘*z0rtie*’ and ‘*fleg*,’ respectively.

Channels are often operated on a long-term basis by a group of individuals who take responsibility for the channel and who wield what is known as ‘operator’ status. Operators control who can access the channel and who gets permission to speak. Aiding the operator staff of a channel are ‘bots’, which can number as many as 10 per channel. Bots are computer programs (agents) that connect to the IRC network just like any

ordinary (human) user but they also perform special functions, some public and some private. A typical example of public bot usage is the following:

```
> !seen edz-  
<_sub-bass> !seen edz-  
<MAJOR> I saw edz- last, 2 days 23 hours 36 minutes ago. - last signoff:  
suicide..... <rB!>
```

In this example we asked the bot ('MAJOR') when another user ('edz-') was last seen in the channel. Bots create an additional level of social infrastructure in the IRC beyond simple chatting. They can be used to protect a channel from hostile takeover, to enforce class distinctions, to spy on other channels, to send asynchronous messages to other users, and to also catalog and transfer files.

A special kind of bot is the FServ bot. These bots provide a library of audio files which may be downloaded either free of charge or in exchange for a certain ratio of files which the user 'uploads' into the channel (more on which, below). Another example should be illustrative:

```
/join #mp3jazz  
> !swingman  
<_sub_bass> !swingman  
* DCC chat request from swingman [rewt@128.49.26.32]  
> /dcc chat swingman  
* DCC chat session established with swingman [rewt@128.49.26.32]  
=<swingman> SwingMAN fileserv running Polaris v1.0
```

```
=<swingman> Ratio: OFF
=<swingman> Commands: cd, ls, dir, read, get, quit, bye, exit
=<swingman> stats, credit, ratio, who, sends, gets, top10, queues
=<swingman> To get more information about these commands, type help
=<swingman> [\]
> /msg =swingman ls
=<swingman> [ \*. *]
=<swingman> COLTRANE MIXED JAMS VOLUME 1 – RNS
=<swingman> End of list.
```

In this example, we connected to a bot named ‘*swingman*’ that inhabits ‘*#mp3jazz*,’ a channel for the exchange of jazz music. Since we were connected by DCC (Direct Client to Client) chat instead of through the regular IRC network, our messages went directly between host computers without bouncing through the IRC servers (thus reducing latency and adding security). DCC allows files to be transferred directly between two IRC users (or a user and a bot). This method of exchange is most frequently employed when two users are exchanging files in a trade, or when one is providing a single file as a gift to another user.

XDCC (eXtended DCC) is a set of client extensions that allow users to automatically offer a set of files for download via DCC to all participants in a channel. Running an XDCC requires less resources than running a full-fledged web-site and they are also more fleeting. As such, XDCC is popular with users who would like to give something back to the sub-culture but who lack the resources or inclination to run a larger

system. Most of the time, XDCC offers are known as ‘leech,’ which means that nothing is expected in return for the files that are provided. Here is an example of an interaction with an XDCC offer script:

```
* Red{Out} plays • drunken_rasta.mp3 • 5899kb • Type @Bonghit
drunken_rasta.mp3 to leech
> @Bonghit drunken_rasta.mp3
<_sub_bass> @Bonghit drunken_rasta.mp3
* DCC SEND request 'drunken_rasta.mp3' from Red{Out} [red-
out@24.17.82.33]
/dcc get Red{Out} drunken_rasta.mp3
* DCC GET 'drunken_rasta.mp3' initiated with Red{Out} [red-out@24.17.82.33]
```

In this example we triggered the offer script running in *Red{Out}*'s client to send us a song by typing a command into the channel, and the program responded by transmitting the file.

Moving files directly between IRC clients is convenient for small and infrequent file exchanges, but it does not meet the needs (measured in terms of reliability, performance, and stability) for large scale users who exchange hundreds of megabytes of files per day in dozens of transactions. A much more robust system of file exchange exists for these participants – FTP (File Transfer Protocol). FTP was one of the first network applications deployed in the infancy of the Arpanet (the military computer network which became the Internet we know today). A user who wishes to become more seriously involved in the trading of MP3 files will often put up a ‘site’ (shorthand for

‘FTP site’), and run a server on his or her computer that provides other users with access to audio files by way of an FTP client. Sites may be public (open to access by anyone knowing the coordinates of the computer in cyberspace), or private (open to access only by those with their own login accounts). Frequently a site will run with a ‘ratio,’ which means that a user must upload (give) files in order to receive permission to download (take) files from the site. A typical ratio is 1:5, meaning that for each 1 byte the user uploads in a session he or she may download 5. This prevents ‘leeches’ from simply downloading an entire collection without contributing anything back to the site.⁵ These technologies collectively provide the substrate upon which the audio piracy subculture grows. We now strive to explicate this subculture in action.

III. Inside the Audio Piracy Subculture: Roles of Exchange

In the remainder of this essay, we provide a brief ethnography of the culture of audio pirates. As will soon become evident, their culture is extremely dynamic—a state of more or less continuous flux—as participants must cope with technological advances and other changes in their virtual environment. Our primary purpose in this section is to sketch out the fundamental social distinctions and differential relationships in the audio piracy subculture.⁶

The audio pirate often uses several computerized tools simultaneously, sometimes with multiple and distinct windows open at any one time to different destinations in each.⁷ A typical ‘upper-class’ audio pirate might have open two FTP clients, an IRC

client talking in four channels, a web browser, and an FTP server. By rapidly multiplexing which of these interactions to focus upon, the pirate will never run out of things to do, and can spin about for an unbounded amount of time, moving files from place to place, building social status and all the while continuously conversing with others.

Audio pirates spend varying amounts of their daily lives involved in these activities—the lower and upper limits in this study being about 30 minutes, and eight hours a day, respectively. The users we encountered typically felt that their interactions are of real social significance, as friendships are made and destroyed, and conflicts created and resolved day in and day out. Above all, however, their *raison d'être* is to move data at a dizzying pace. Let's wade in.

The audio piracy community's nominal purpose is to exchange high-quality audio files between people, making it easy to locate, share, and store them for later playback and re-transmission. There are three dominant modes or roles into which a pirate's online activities may fall, that of leech, trader, and citizen, which we now address in turn. The links to existing sociological discourse on social action will be made by applying these constructs to the three main routes of 'getting action' found in network theorist Harrison White's (1992) recent work, Identity and Control.⁸

Files obtained via the leech approach are provided to the receiver completely free of charge and without social obligation, as noted above. An agent locates a file that is available *gratis* either by waiting on an IRC channel for an FServ bot to offer it for download or by using a search engine on the Web or as part of a bot. Having found the

file, the user then downloads it via FTP or DCC, and moves on to obtaining the next one he or she desires. When a file is received under the sign 'leech,' the person offering it is not expecting a favor or even necessarily a words of thanks; he or she is simply doing it for the good of the community as a whole. In White's terminology, the leech would fit in the scheme of getting action by 'reaching through' the MP3 network. No objective change in social position or status is obtained by acting as a leech. According to White,

Reaching through is a phenomenological term about strategic efforts to get action and control through and despite . . . complex deposits of social organization. . . .

Reaching through is a matter of occasion and process as much as structuration . . .

Reaching through is as much selectivity as it is persevering through multiple connections. (White 1992, p. 260)

Leeches that 'reach through' to get action are mainly trading water. New information is sought out and short-term connections established, but none of this involves a longer range plan for further control and action within the subculture.

A trader's approach is based on a system of pure exchange value. Someone who is trading files will typically enter a chat channel and request a specific song or album he or she desires, hoping to find someone who has it in their collection. Upon finding a person who possesses the file, a deal is struck to exchange the desired file for another file or set of files that the requesting user either has in his or her collection, or knows where to go to find it. Here is a simple example of a trading session:

*<_sub-bass> anyone got DJ Qbert's 'Demolition Pumpkin Squeeze Music'
japanese promo?*

**m1x* yuh*

**m1x* u got other turntablism shit?*

<_sub-bass> yep, got cut chemist, prince paul, and umm I think some dj shadow

**m1x* sweet the whole cd iz 80 megs what link r u on?*

<_sub-bass> cable

**m1x* word herez a dcc*

** DCC SEND request*

'dj_qbert_demolition_pumpkin_squeeze_music_jp_promo_full_album.zip'

from m1x [richard@think.com]

/dcc get m1x

'dj_qbert_demolition_pumpkin_squeeze_music_jp_promo_full_album.zip'

** DCC GET*

'dj_qbert_demolition_pumpkin_squeeze_music_jp_promo_full_album.zip' initiated

with m1x [richard@think.com]

<_sub-bass> so what did you want?

**m1x* which dj shadow*

<_sub-bass> endtroducing...

**m1x* sure*

**m1x* send it*

/dcc send m1x /home/_sub-bass/mp3/dj_shadow_endtroducing_full_album.zip

** DCC SEND 'dj_shadow_endtroducing_full_album.zip' initiated with m1x*

[richard@think.com]

A typical trader repeats this simple interaction many times a day. Traders sometimes impose more stringent conditions for a swap if a file is particularly difficult to find, for example, if it is a pre-release copy or a 'bootleg' of a live show. Occasionally a trader will demand a file the requesting trader does not have in his or her collection, and the requesting trader will be forced to seek out the file in order to make the trade. An ability to fulfill difficult requests is a sign of status within the audio pirate community (more on which, below).

<_sub-bass> has anyone heard of 'swollen member' out of new york? I think they have everlast from house of pain

<spinner> nope

<daz> pretty ill, right?

<daz> my boy in ny got a copy, it's only on vinyl, mad underground shit

**daz* what u got to trade?*

<_sub-bass> got some dj rectangle, squarepusher, the new xzibit

**daz* nah fuck that spacy shit*

**daz* what u got datz underground?*

<_sub-bass> what are you looking for?

**daz* hmm.. dj honda?*

<_sub-bass> huh hang a few I think I saw it on a site

The trader role appears to fit nicely in to Harrison White's second mode of getting action, that of 'reaching up,' (White 1992, p. 256). Reaching up is a matter of a shifting one's social location, from present position, to someplace 'upstream.' Traders reach up into a

channel to obtain a coveted file and in the process often, in fact, ‘upload’ files into that domain. They are the entrepreneurs who get action by reaching up to become further embedded in the subculture. The more upward their orientation, the larger their net of audio files, and thus their social action potential.

The most respected role structure in the audio piracy community, however, is that of the citizen. Someone who exchanges files in citizen mode is willing to give files away in order to benefit the community as a whole, sometimes trading, sometimes leeching, sometimes providing things for the leechers to consume. The citizen role is the most common for committed members of the audio piracy subculture. The citizen role seems to have an elective affinity with White’s (1992, p. 262-265) remarks about ‘reaching down.’ As White (1992, p. 263) suggests, ‘reaching down is seen as a positive opportunity for action in that it allows for the continued outreach to wider and changing scopes which is indispensable to continuing to get action.’ Reaching down is primarily a matter of elite actions; using one’s power to generate action for oneself and others, which thereby enlarges identity.

It is important to compare and contrast the social roles of leech, trader, citizen, and to examine the attendant social ramifications that falling into any one of these subgroups provides. Membership in these subgroups changes over time, of course, as a user’s relation (e.g. time, devotion, and social position) to the subculture changes. For example, someone who is primarily a citizen may engage in leeching when he or she is simply looking for new audio wares, and a citizen might occasionally engage in trading in order to get a really hard-to-find file.

Leeches are the bottom of the social heap, and are at the mercy of philanthropist citizens to provide them with the files they need. In a given channel containing 60 users, only five or ten might be actively conversing at any one time, while a large number of leeches (also called ‘lurkers’) hang around the channel waiting for someone to offer a file for download, at which point they snap into action and acquire it. Here is an example of leeches doing what they do best in a channel:

<RapMstr> | RAPMASTER FSERV // RMS 1998, BIATCH!

<RapMstr> | type !get #X to get pack #X

<RapMstr> | -----

<RapMstr> | #1 : De La Soul, (classic) 3 Feet High and Rising [album] : 65m :

16 gets

<RapMstr> | #2 : Method Man, Tikal 2000: Judgement Day [album] : 70m : 177

gets

<RapMstr> | #3 : Blackstar, Blackstar [album] : 68m : 115 gets

<RapMstr> | -----

<RapMstr> | 10 of 10 slots open, 10 of 10 queue slots open, record speed 88k/sec

<vBeeF> !get #2

<RiZZUH> !get #2

<RiZZUH> !get #3

<vBeeF> !get #3

<tekNO> !get #1

<s1k0> !get #3

<smash> !get #2

In this example, an FServ bot called ‘RAPMASTER’ operated by a pirate group called RMS (Rock Mighty Syndicate) offers some popular albums for download to everyone in a channel, and within seconds five leeches begin to download the files, two of them requesting two separate files each. The chief advantage of being a leech is that it is very low-maintenance, requires no regular social interaction and no real investment in the community beyond time. Competition between pirate groups to supply the largest number of leech requests results in a surplus of recent popular songs being widely available for leeching, but since leeching requires almost no social effort the leech remains a member of the lowest social class within the sub-culture.

Traders, by contrast, are more complicated characters. It is often difficult to determine whether a given trader actually wants a given file for personal use, for trading capital or simply because they like to transmit data around cyberspace. Sites typically provide private login accounts to traders who maintain an adequate upload ratio and they build a reputation on the site on this basis. The login identifier is authenticated by a password and an ‘ipmask’ (a numeric network identification that uniquely identifies the trader’s computer so that he cannot share his account on the site with other traders). There is much competition between traders who frequent a given site or channel to see who can upload the most data to an important site or who can wield the largest array of files to trade. Here’s an example of the way in which a trader gets an account on a site:

<_sub-bass> trading recent hiphop on a fast connection. /msg me for info

**meKKa* yo I run a phat site.*

**meKkA* t3/15 gig/hiphop only*

<_sub-bass> gimme a ratio acct, I will ul

**meKkA* l/p and ipmask please*

<_sub-bass> _sub-bass/bas1k 24.3.78.188

**meKkA* okey: BaSS meKkA 182.15.22.16 port 357 1:5 ratio*

**meKkA* upload lame shit and be banned*

Essentially, the trader brags about the speed of his or her connection and the amount and type of files he or she possesses, and then site operators offer temporary trial accounts to see if the trader can really deliver the goods. It is social protocol to upload a large amount of files before downloading from a site in order to thank the site operator for the account. However, if the trader perceives the site operator or the site to be ‘lame’—in the sense that it doesn’t contain files of interest, he or she may not upload at all or upload only enough files to get the files he or she wants.

Citizens represent the highest social strata of the audio piracy subculture. There exists some overlap between the role of trader and the role of citizen, but the main difference is that traders are primarily focused on their own data acquisition, while citizens are more attuned to social interaction and status. This is not to say that citizens are uninterested in transferring files (as data exchange is the central activity of this subculture), but citizens are distinguished by taking an active interest in one another as human beings rather than mere bargaining chips. Those who act in citizen role are the philanthropists of the subculture, and they run the FServ bots that serve the leeches. They gain social status through these activities. Citizen users make up the majority of the

members of pirate groups and channel operators because they enjoy the status and power of their social position as much and sometimes more than the actual exchange of files.

We interviewed a citizen-class user about why he participates in the MP3 subculture.

Part of this exchange is reproduced here:

<_sub-bass> thanks for letting me interview you.

<Magias> np

<_sub-bass> so, a) why do you run an FServ?

<Magias> It's kind of nice to give people things that make them happy, and it only takes me like ten minutes a day to give a lot of leeches a lot of recent music. What goes around comes around, you know?

<_sub-bass> you don't get anything in return but social status?

<Magias> I'm not really sure I get social status. I mean people give me shell accounts and accounts on their sites, but that's not really why I do it. Well I guess I do get social status but I'm not in it to compete, just to have fun.

<_sub-bass> yeah. b) where do you get the mp3s you put onto your FServ?

<Magias> From my sites. From other people I know. The usual. I just have some good sites.

<_sub-bass> c) would you call the people you know online 'friends'?

<Magias> What?!

<Magias> Ummm...huh. Well some of them are, of course. It's just like anything else, some people are dicks and some people are just like acquaintances and some people I talk to almost every day. It all depends.

Most of the pirates we interviewed, however, had for the most part failed to think reflexively about their involvement with the audio piracy subculture. Some even expressed contempt at our attempt to document and analyze the power relations within their community, viz.: ‘*tim* FUCK YOU, COLLEGE BOY.’

For the most part it seems that audio pirates view this social system as just another network in which they participate. They talk to the people they like, ostracize those they don’t, and, on the whole, seem to have a pretty good time in the process. As in all social organizations, there are power relations among the social actors, and in the audio piracy subculture, these relationships shape the flow of data between participants.

IV. Status Symbols and Power Signifiers

The most common status symbols we discovered in the audio piracy subculture are *fast bandwidth* and *large disk storage capacity*. Since the dissemination and accumulation of data are the primary activities for the members of this subculture, the ability to store massive amounts of data and to move it rapidly from place to place are necessary for inflating a pirate’s status within the scene. Certain channels exist for users with particular sorts of links who are unwilling to transmit data at speeds slower than their link will permit.⁹ Another important status symbol for traders is the speed with which they can get released files. ‘Zero-day’ traders, for example, receive new sound files on the day they are released to the network by a pirate group, while ‘zero-hour’ traders take it one step

further and get the files within an hour. A final marker of status is affiliation with pirate groups, which are ranked according to an internal ordering scheme, relative to each other.

Respect is the metric of status within this social system, and an increase in respect tends to increase the amount of power wielded in the subculture. Some forms of cultural capital can increase a pirate's status simply because he possesses them, but others must be earned by hard work and apt social maneuvering, just like in real life. *Traders* earn respect by having the largest number of recently released files, and by uploading them very quickly to the sites and people with whom they trade. They compete with one another on sites to see who can upload the most files to a respected site, which may earn them the coveted 'uploader-top' title, a distinction bestowed when they outperform all other users during a given period of time.

The way *citizens* gain respect is more complex and depends upon the services they provide to the community or group, but it is also often based on social intangibles such as the extent of one's social connections and ability to handle adverse situations. Power is wielded mainly in terms of controlling or restricting the ability of others to transmit and receive data.

Once granted admission to a channel, the pirate may be granted '+v' status—which means that he or she is a member in good standing of the channel or group—or '+o (operator)' status—which means that he or she helps to control the channel or group. On channels belonging to audio pirate groups, +v and +o status tend to signify whether or not a user is a member or a senior member, while on more public channels these signs indicate status on the channel. Those with +o permissions may excommunicate people

from a channel, remove their ability to speak, change the channel topic, make the channel invitation-only, and apply a host of other restrictive criteria to a pirate's account.

Access to sites also obviously involves relations of power and control. The bargain is that, once granted access to a site, pirates will provide quality files (in terms of release date and type) that fill the needs of the site—the better the site, the higher the quality of the files the pirate is expected to provide. 'Leech' access on excellent sites is granted only to individuals of the highest rank or those who know the site administrator personally. Pirate membership in diverse social networks and the capacity of high-speed links can exert power on the site operator, and force him or her to provide the user with an account in order to improve his site. As way of illustrating this phenomena, compare the interaction we quoted earlier when we were granted access to a fairly low-grade site (this in spite of its operator labeling it 'phat'), with the interaction in which we bargain for an account on a high-end site (one with a T3 connection, 45 gigabytes of storage, and which is US headquarters for a major MP3 piracy group):

<_sub-bass> hey, mark0z, told me to ask you about an account on your site.

**tek9* did he*

**tek9* what are your affiliations*

<_sub-bass> I run bots and do some couriering for steppaz

**tek9* my site only allows >50k/s transfers*

<_sub-bass> yeah I can do that

**tek9* hmm*

**tek9* u can have a trial acct*

**tek9* make uptop10 this week and u get a perm acct*

**tek9* read the site rules*

**tek9* l/p and ipmask?*

<_sub-bass> subbass/sp4ng ipmask 24.3.78.188

<_sub-bass> thanks

**tek9* wait*

**tek9* ArmoryFTP / 128.180.118.102 : 187*

This site operator granted us access based upon the fact that we were recommended to him by a user the operator knew had an account on his system, as well as the fact that we were a member in a mid-tier MP3 piracy group called ‘steppaz.’ It is quite likely that **tek9** had a private conversation with the user (*mark0z*) who recommended us, to ensure that we were telling the truth. Even with this recommendation, the operator required us to be one of the top ten uploaders in terms of bytes uploaded for the next week in order to keep our account. The power dynamic weighed heavily in his favor because **tek9** controlled the resource we wished to access, and as such he was able to name the terms under which we could participate on the site.

V. The Division of Labor Among Audio Pirates

Audio piracy groups are extremely sophisticated and often very well organized. Their purpose is to encode new music into the MP3 format and to distribute it to their member sites for eventual dissemination into the larger community of traders and leeches outside

of the group. Toward this end, pirate groups have an explicitly stated internal social hierarchy and a less formal external hierarchy that determines how different pirate groups relate to one another.

The highest positions available within a pirate group are those of the senior staff. These are the people who manage the other members of the group, which can sometimes number up to eighty individuals in many different parts of the world. Senior staff members are responsible for ensuring that all other members of the group do their jobs and that unexpected contingencies are resolved. They recruit new members to the group, organize and run online meetings, and manage intra- and inter-group relations. On occasion, senior staff members even receive compensation in the form of stolen computer hardware for their efforts.

The remainder of the group is divided into task-specific roles. Couriers, for example, are primarily recruited from the population of traders. They are responsible for uploading to member sites and disseminating released files to member sites and other sites they access. Site operators provide a machine to host the pirated files, typically on a fast link with enormous amounts of storage space. They update user accounts and also delete files already uploaded that did not meet the site's criteria.

Botmasters create and operate programs called bots which manage IRC channels for the group's use. Bots enforce social status distinctions on channels by automatically recognizing users who enter the channel and granting them special perquisites according to their status within the group. Bots also help to protect a channel from hostile actions taken by members of other groups should a conflict arise (more on which below).

Rippers obtain new music and convert it to MP3 format and provide it to packagers, who add group information and place it on a 'drop site' for the couriers to disseminate. Many groups publish a weekly newsletter for their members and that lists the top couriers, sites, and rippers for each week. This medium provides a spirit of friendly competition within the group.

Pirate groups are also in competition with each other. Two main categories of audio pirate group exist: courier groups and release groups. Courier groups strive to move the largest possible amount of most recent files to their member sites or to disseminate them to as many leeches as possible. Release groups strive to be the first group to transmit a given musical release onto the Internet after its release, preferably even before it is released in music shops. Sophisticated search engines which index all files released helps to determine whether a given musical title has or has not been previously released. Duplicating a release that another group has already released is considered extremely 'lame' and pushes the group's status downward very quickly. A weekly scene report ranks groups by the amount of data they disseminate on popular IRC channels and to the largest sites in the world. Membership in a top group provides members with significantly more status than membership in a lower group.

VI. Social Conflict and Resolution

To the outside observer, the causes of conflict between individuals in the subculture might seem completely spurious. Typically, one individual user irritates another who

immediately blows it out of proportion and reacts quite irrationally. IRC is slightly dehumanizing in that it is hard to visualize the actual person on the other end of the screen, and tempers can flare at the least provocation. When conflict occurs between two people, one party try to exercise his or her power in order to rectify the situation. The following example provides an example of such a situation:

```
<martin> dr_holiday iz a fuqin punk  
<martin> get a life, u lamer  
<dr_holiday> uh huh  
*** martin was kicked by dr_holiday (wait, who's the lamer?)  
*** martin has set mode #steppaz +b *!martin@*.earthlink.net  
<dr_holiday> bitch
```

In this scene, *dr_holiday* sanctioned the offending user by forcibly removing him from the channel and banning him from returning. This was possible because *dr_holiday* had operator status on the channel, and thus had a power advantage over *martin*.

Sometimes conflict can escalate beyond these limits. Offended users sometimes go below the level of IRC to the base of the operating system or the network, and take steps to crash an adversary's computer and they may even delete his files. Users occasionally vanish from IRC inexplicably when attackers take advantage of bugs in their computer's operating systems to crash their computers, and offended hackers sometimes break into an adversary's account and steal their passwords before deleting all of their data. In a social ecology based on data and access to it, taking someone's passwords and deleting all their data is, practically speaking, akin to social death.

Knowledgeable users can also dupe the IRC network into granting them operator status on a channel they should not otherwise access by hacking a server or causing servers to lose connections with one another. Channel bots are designed to protect against this sort of behavior, and botmasters continually revise their defense scripts against attackers in a virtual arms race of access control. The ultimate insult to a channel or group is to take over their channel and ‘occupy’ it so that the opposing group cannot access the site until they determine how to regain control. Conflict is thus about removing access to resources and denying the enemy the ability to move data. Resolution involves either striking back at the enemy and/or working things out peacefully to arrive at a truce, at which point data connectivity and communication is restored. Pirates are horrified when their connectivity and resources get blocked, and appear to stop at nothing to restore the *status quo* if the enemy’s attack is successful.

There are elements of the audio piracy community who seem to gain some sort of sadomasochistic pleasure by engaging in power struggles, and there are also freelance mercenary hackers who solve other people’s problems in exchange for access to coveted sites. Completely destructive attacks are, it seems, quite rare, while denial-of-service attacks (in which an enemy’s network link is rendered unusable for a short period of time) are more common.

Conclusion

What implications does the audio-piracy subculture have for traditional forms of music production and distribution? It seems an understatement to say that the recording industry is scared. Audio pirates largely, and perhaps completely, ignore copyright laws. For many pirates, the question of copyrights is simply irrelevant. Unless they are operating a site, it is virtually impossible for an audio pirate to experience legal trouble—prosecution is extremely uncommon, and the most severe penalty an ordinary user can expect is deactivation of Internet access. One pirate revealed to us that,

<dox> Copyright law doesn't interest me. It doesn't pertain to my existence in any way because it never could affect me. I buy the software I use for business, and steal the software I use for pleasure. I buy CDs that I want to listen to, but I download mp3 files of music that I don't think is worth buying or that I can't find for a reasonable price. It's not like I can get caught, so why not?

Copyright law is thus taking a beating in this age of electronically border-less nation-states, especially when we consider the fact that the largest pirate audio sites are located 'off-shore' where the legitimacy of the original US copyright is questionable at best. Some pirates take an active stance against the very concept of copyright law, believing that 'information wants to be free,' and justify their activities by trying to make this happen.

Audio pirates are making a revolution in the way contemporary music is produced, accessed and distributed. How long it will take to make the transition to a completely 'networked' system of musical production and distribution is, of course, an open question. That such a day is coming, however, seems inevitable as musical artists

use MP3 to increase their autonomy, households get even faster connections to the Internet, and digital audio playback devices become even more widespread.

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ENDNOTES

¹ Labor for this project was divided up in the following way. Cooper wrote the rough draft of the paper for a course, Popular Culture and the Mass Media, which was taught by Harrison at New College in 1998. In early 1999, Harrison partially re-wrote the paper, fine-tuned the argument, and incorporated more theory and context. Both authors have continued in equal capacity to revise the manuscript since this time. Cooper may be reached at jdc@pobox.com. Harrison's email is: danielharrison@prodigy.net. General questions or comments should be addressed to: Daniel Harrison, Department of Sociology, Florida State University, Tallahassee, FL 32306-2270.

² Additionally, our research has unveiled an additional 19 portable players either planned or under development, as well as eight car stereo devices and 18 MP3 players designed to be integrated within a home stereo system.

³ Interactions online pirates refer to as 'RL' (real-life) or 'IRL' (in-real-life), respectively.

⁴ IRC gained notoriety as a social facilitator during the Persian Gulf war when thousands of people from around the world gathered to talk with people in the war zone in real time during the fighting, the first author of this paper among them.

⁵ The five to one ratio is interesting in that it corroborates insights concerning the social importance of the number five. As Harrison White (1992, p. 10) observes in Identity and Control: 'One thousand, and five, more or less, should be the two principal numbers for the human species. A thousand, on the one hand, because that is where it all begins, the size in number of individual creatures of a primitive tribe which is a more or less isolated aggregation able to subsist and to reproduce itself . . . Five is the median number of

comparable selves that work together effectively enough to keep reproducing the arrangement. The size of five cuts across all contexts and levels: nuclear family, men in a fishing party, producing firms making up a market, and so on.’

⁶ The reader should be aware that these models will undoubtedly change over time. Part of what makes this culture so interesting for sociological inquiry is the very swift mutations that it undergoes, changes which are facilitated by the fact that there are no real physical objects to move when the infrastructure undergoes fundamental changes in nature.

⁷ Internet cultures are, in general, a boon for the ADD/ADHD ridden post-television generation and its kin, since an infinite number of stimuli are simultaneously and efficiently available at any moment, and the typical audio pirate embodies the fragmented attention-span typical of serious Internet users.

⁸ For more on the theoretical ideas of Harrison White, see Harrison (Forthcoming).

⁹ At the time of writing, these included: *#mp3t1*, *#mp3-t3*, and *#mp3cable*.