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Flying the Pirate Flag: Understanding the Fight Against and Prevalence of the Internet Gift Economy

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Flying the Pirate Flag

Understanding the Fight Against and Prevalence of the Internet Gift Economy

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SALVE REGINA UNIVERSITY

Flying The Pirate Flag
Understanding the Fight Against and Prevalence of the Internet Gift Economy

A Thesis Submitted to
The Faculty of the International Studies Major
In Partial Fulfillment for the Degree of
BA in International Studies

by
Zachary O'Leary

Newport, RI
May, 2009

Abstract

The number of citizens affected by common internet access makes arguments over its governance of primary concern to all. Peer-to-peer file sharing, oftentimes allowing for copyright infringement, is currently a major use of internet infrastructure. A review of the legislative and technological attempts to prevent such infringement, as well as the reasoning behind its prevalence, provides insight into the tension created by present intellectual property rights; this is a tension between those it intends to protect and to reward.

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Introduction

> This is our world now... the world of the electron and the switch... We make use of a service already existing without paying for what could be dirt-cheap... and you call us criminals. We explore... and you call us criminals. We seek after knowledge... and you call us criminals... Yes, I am a criminal. My crime is that of curiosity. My crime is that of judging people by what they say and think, not what they look like. My crime is that of outsmarting you, something that you will never forgive me for... You may stop this individual, but you can't stop us all...[1]

These words, expressed in 1986, are relevant now more than ever. Written after the author had been arrested, "The Conscience of a Hacker" (often referred to as the Hacker Manifesto) is now considered canon in a subculture that has expanded with the proliferation of the internet. Once a costly system with a high learning curve, the internet's present 'population' of over a billion[2] suggests that those barriers to entry are largely gone and that the socio-economic implications of its governance will only become more significant. Much of today's accessible information, and communication, is made available through internet access and infrastructure; even those citizens without access can benefit from community usage of this far-reaching network, making concerns of internet denizens the concerns of society as a whole. The primary source of traffic on the

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[1] Blankenship, Loyd. "The Conscience of a Hacker." Phrack Magazine. 18 Jan, 1986. 25 Mar, 2009. <http://www.phrack.org/issues.html?issue=14&id=3#article>

[2] "Global internet users top one billion for the first time." Economist. 26 Jan. 2009. 27 Jan 2009. <http://www.economist.com/daily/chartgallery/displaystory.cfm?story_id=13007996&fsrc=rss>

internet is peer-to-peer[3] (P2P) file sharing,[4] making it a forerunner in not only legislative discussions concerning intellectual property[5] (IP), but also the technological realm where service providers struggle to provide the infrastructure for such activity. P2P is often used synonymously with piracy, an action that IP industries have actively sought to criminalize since the late 1990s.

> Gradual improvements in both the technologies of reproduction and communication resulted… in an Internet awash with unauthorized copies of software programs, music files, e-books, films extracted from DVDs, scanned photographs, even needlepoint patterns. Any digital object can be duplicated with no loss of quality or perhaps with some loss for the sake of creating smaller files that are easier to move around the Net.[6]

This battle entered the mainstream with the P2P music service Napster that "had some seventy million users trading 2.7bn files... every month"[7] at its peak. Describing P2P as piracy has certain negative implications, which is why P2P is also described as the internet gift economy.[8] Couple this willingness to share at near-zero-cost with a general

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[3] Peer-to-peer file sharing, hereafter referred to as P2P, is a data distribution system that allows users to exchange digitized content with one another.

[4] Ipoque. "Internet Study 2008/2009." Press release. Ipoque Internet Study 2008/2009 Finds Web and Streaming Outgrows P2P Traffic. <http://www.ipoque.com/news-and-events/news/ipoque-internet-study-2008_2009-finds-web-and-streaming-outgrows-p2p-traffic.html>

[5] Intellectual property, hereafter referred to as IP, refers to the rights that an owner has over a physically intangible creation, ranging from music to phrases to designs.

[6] Chadwick, Andrew. Internet Politics. Oxford University Press, USA, 2006. Pg 306.

[7] Mason, Matt. The Pirate's Dilemma. Free Press, 2008. Pg 154.

[8] The idea of an internet gift economy suggests that users share because of a sense of altruism at near-zero-cost.

lack of understanding in IP law and it is easy to understand why there is a widespread acceptance of piracy.

Since Napster, there have been various legal battles and technological attempts to quell the tide, but it has only gotten stronger. Essentially, IP and the concept of the copyright broke when crossing the physical-digital divide. Laws based on physical property did not consider the possibility of goods that, once created, could be replicated to the point of zero-scarcity. The entire population of the world could demand an item, but the effectively infinite supply of a file available on the internet would still make the price become $0.00. Can you steal an item if you do not actually deprive the original owner of it? Is it logical to assume that in every case pirating a piece of IP constitutes a loss of sale, assuming it was being sold? Can business survive against this new competitor, a customer base that shares with no regard for production value? Actually, it is quite likely that business will thrive thanks to digitization and falling prices for bandwidth[9] and disk space.[10] Monetizing IP now is a matter of updating old business plans and making use of new models for profit. Take Google, the technological titan, as an example. Google has enormous operating costs, but they are also wildly successful because of their AdSense service, which successfully turns free services like Gmail and Youtube into large sources of revenue. Another example, this one from the music industry, is the release of Radiohead's latest album. The group let fans pay what they wanted for their new album, *In Rainbows*, which sold 1.2 million copies at a speculated

[9] The measurement for data transfer on the internet.

[10] Disk space refers to the storage capacity of physical objects like hard drives and CDs.

average of one English Pound paid per download.[11] Itunes, amongst a variety of other services, has thrived in this environment, leading one to believe that piracy is just a new competitor - not the harbinger of the end of business.

Changes to the copyright system that acknowledge the differences between physical and digital media may be necessary – changes that handle the new desire of consumers to become producers in their own right. "We're users. We don't consume content, we use it, and mostly what we use it for is to support our conversations with one another, because we're media outlets now too..."[12] Along with growth into a digital sea of pirates, the internet has reached what is labeled 'Web 2.0,' a movement that fuels the fires of sharing. Web 2.0 can be understood as the widespread use of interactive internet in the presence of broadband[13] access,[14] but this definition does not accurately express what Web 2.0 is. The best definition ironically comes from one of Web 2.0's biggest critics, Andrew Keen: "It worships the creative amateur... It suggests that everyone... can and should use digital media to express and realize themselves. Web 2.0 'empowers' our creativity, it 'democratizes' media, it 'levels the playing field' between experts and

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[11] Colothan, Scott. "Radiohead Sell 1.2million Copies of 'In Rainbows.'" Gigwise. 11 Oct. 2007. 17 Jan 2009. <http://www.gigwise.com/news/37670/exclusive-radiohead-sell-12million-copies-of-in-rainbows>

[12] Sharky, Clay. "Why Small Payments Won't Save Publishers." Sharky.com. 9 Feb. 2009. 9 Feb. 2009. < http://www.shirky.com/weblog/2009/02/why-small-payments-wont-save-publishers/>

[13] Broadband is a blanket term for high-speed connection to the internet.

[14] Hinchcliffe, Dion. "A round of Web 2.0 reductionism." ZD Net. 15 May 2006. 25 Apr 2009. <http://blogs.zdnet.com/Hinchcliffe/?p=41>

amateurs."[15] This is why the functionality of IP is so important; Web 2.0 makes commonplace the kinds of services that allow for a level of self-expression that was never conceivable before.

The internet is finally being used to fulfill the responsibilities it was given at its inception – it is facilitating the spread of information from the farthest corners of the world, and from next door. Communities are sprouting up for every interest, from photography to office and ecological efficiency to networking for the sake of it. Historically, information used to trickle from the tap, but now it is an unstoppable flow. This is great for spreading knowledge and culture, and for crowd-sourcing,[16] but it becomes a problem when you consider that, according to the U.S. copyright office, "...the moment it is created and fixed in a tangible form that it is perceptible either directly or with the aid of a machine or device," information is under copyright protection. Multimedia can spread virally on P2P networks and words on an internet site can be quoted a multitude of times within minutes. Many people want their creations to spread and be used without fees or having to grant usage rights. Incentive should be offered to IP

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[15] Keen, Andrew. "Web 2.0." The Weekly Standard. 15 Feb. 2006. 17 Jan 2009. <http://www.weeklystandard.com/Content/Public/Articles/000/000/006/714fjczq.asp?pg=2>

[16] Crowd-sourcing, also known as open sourcing, allows for anyone to contribute to a project or goal, with the hope that many inputs will produce the best possible outcome. Wikipedia and the Linux operating system are examples of the success of crowd-sourcing.

creators, but the present system insuring such incentives is struggling. Stewart Brand[17] said it best…

> Information wants to be free. Information also wants to be expensive. Information wants to be free because it has become so cheap to distribute, copy, and recombine – too cheap to meter. It wants to be expensive because it can be immeasurably valuable to the recipient. That tension will not go away. It leads to endless wrenching debate about price, copyright, 'intellectual property', the moral rightness of casual distribution, because each round of new devices makes the tension worse, not better.[18]

The internet allows for the exchange of information; that term, information, seems to be redefined over and over again as humanity progresses: the formula for a lifesaving drug, art, even currency. Because of this, internet and IP legislation are not just important for creators or internet enthusiasts. If businesses want to succeed, they need to recognize the tension that Stewart Brand describes, and so do countries that want to stop labeling entire generations as criminals on the basis curiosity. Arguing for piracy is not about listening to music and watching movies for free, that is just 'armchair activism.'[19] Piracy illustrates the need of international copyright laws to find a balance between the desire and freedom to experience and to create. If businesses hope to succeed in a time where piracy is so prevalent they need to recognize it as a powerful competitor in the IP

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[17] Stewart Brand, creator of The Whole Earth Catalogue, a magazine that Steve Jobs of Apple once referred to as "...sort of like Google in paperback form, 35 years before Google came along: it was idealistic, and overflowing with neat tools and great notions."

[18] Brand, Stewart. Media Lab inventing the future at MIT. New York, N.Y., U.S.A: Penguin Books, 1988.

[19] Pasquinelli, Matteo. "The Ideology of Free Culture and the Grammar of Sabotage." Rekombinant.org. 26 Jan. 2008. 17 Jan. 2009. <http://www.rekombinant.org/docs/Ideology-of-Free-Culture.pdf>

industry. In all likelihood, information will never again be difficult to acquire, and it will never cost more than $0.00.

Revolutionary Format

The war began much earlier than any manifestos were written, but 1986 is a good beginning to the story of the battle against piracy. In that same year the Computer Fraud and Abuse Act was made into law, making illegal many nefarious actions involving federal and financial computers, as well as those involving foreign or interstate business.[20] Ten years later, along with a gradual increase in computer-based attacks, a file format now known as Mp3[21] gained popularity. With communication and simple file transfer infrastructure already in place amongst a technologically savvy community, music began to spread rapidly. In 1997, Winamp[22] and Mp3.com[23] built a solid user base for a format that would later fuel Napster's rise to fame. Piracy is not just about music, but the Mp3 is of particular importance in the evolution of sharing digitized content. Mp3 is a compressed, or lossy, format, meaning that it sacrifices quality in order to decrease file size. There were cases of digitized music before, but Mp3s were very important when most consumers had dial-up connections and storage was still a luxury. Downloading a song was no longer a huge time commitment and one could build up a collection of these

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[20] "US CODE: Title 18, 1030. Fraud and related activity in connection with computers." Cornell University Law School. 20 Jan 2009. <http://www.law.cornell.edu/uscode/18/1030.html>

[21] A popular audio file format, Mpeg-1 (Moving Picture Experts Group) Audio Layer 3

[22] Winamp was the first popular Mp3 playing software.

[23] Mp3.com once provided Mp3s via a central server, usually by unsigned and undistributed artists. Mp3.com was sued and sold for allowing users to upload tracks from purchased CDs onto company servers, after which those users could listen to their collection wherever they had access to the site.

smaller files. To put it into perspective, an audio CD contains roughly 18 lossless tracks, while the same disc could hold 200 lossy Mp3s.[24]

Napster's widespread success set the stage for A&M Records, Inc. v. Napster, Inc. Several recording companies and the Recording Industry Association of America[25] also took part in the lawsuit. The company was being sued for providing P2P software that was contributory to IP infringement. Representatives of the industry "…argued that Napster was deliberately established to enable copyright infringement and that its use was harming CD sales. …The RIAA argued that Napster was guilty of 'contributory infringement' by creating the conditions in which individuals could share protected files." [26] This case was one of many that came down to an argument of whether or not a service was primarily a tool of piracy. The Digital Millennium Copyright Act[27] describes products as contributory to infringement if they were primarily designed for, marketed as tools of, or have limited legal usability beyond, infringement. Napster did not actually host any Mp3s, though its servers did keep track of which users had what files, which would make it clearly illegal. The argument for the legality of this type of software is that it facilitates the exchange of any file; more specifically, supporters pointed out that

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[24] This is assuming that a CD has 800-megabyte storage capacity, and that Mp3s are usually around 4 megabytes.

[25] The RIAA describes itself as an organization whose "members create, manufacture and/or distribute approximately 85% of all legitimate sound recordings produced and sold in the United States," according to its website.

[26] Chadwick, Andrew. Internet Politics. Oxford University Press, USA, 2006. Pg 309.

[27] The DMCA criminalizes creation and distribution of products that allow copyright infringement. It also limits liability of providers of legal services that might allow for user copyright infringement.

Napster could be used to distribute Mp3s from unsigned artists. The argument that Napster defended itself with had been used before, by none other than Sony, in what is known as the Betamax[28] case. Sony successfully argued that recording content with VCRs to time-shift[29] was protected by fair use.[30] "This decision held that the VCR was legal because it was 'capable of sustaining a substantially non-infringing use.' That means that if you make a technology that your customers can use legally, you're not on the hook for the illegal stuff they do..."[31]

Napster was not found to be illegal, but was ultimately ordered to "monitor the activities of its network and to block access to infringing material when notified of that material's location,"[32] which was not feasible because of the amount of activity the service dealt with. Napster permanently shut down in the summer of 2001 and eventually liquidated its assets, setting a precedent for services fueled by crowd-sourcing. Other P2P services, like Grokster, have also been defeated with legislation, primarily because of affiliated materials that invited infringing activity.[33] These decisions created an environment, within the United States, where P2P services were legitimate so long as

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[28] Betamax was an early-form video cassette and player system which competed with VHS tapes.

[29] Recording content to be consumed at a more convenient time.

[30] In copyright law, fair use rights allow for limited use of IP in certain situations without permission of the owner.

[31] Doctorow, Cory. Content.Tachyon Publications, 2008. Pg 29.

[32] Douglas, Guy. "Copyright and Peer-to-Peer Music File Sharing." Murdoch University. March 2004. 20 Jan 2009. <http://www.murdoch.edu.au/elaw/issues/v11n1/douglas111.html>

[33] Larson, Philip. "P2P Filesharing - The Supreme Court Speaks in MGM v. Grokster." PhilipLarson.com. 6 November 2005. 20 Jan 2009. <http://www.philiplarson.com/blog/?p=5>

they were capable of responding to takedown notices and did not advertise themselves as tools of piracy. Consumers can read between the lines and recognize the unadvertised uses for tools they find, so the latter is more a reiteration of good business sense: show general, and (legally) acceptable, benefits and let the consumer decide how to use it. The problem that IP owners struggle with is a back-and-forth issuance of takedown notices and the response of the crowd. Notices need to be issued against a specific file, not specific content,[34] which is time-intensive. It is also ineffective; takedowns do not prevent users from making it available again. "Viacom sent over 100,000 takedown notices to Youtube last February [2007], but seconds after it was all removed, new users uploaded it again."[35]

This is where the RIAA, the organization that attempted to outlaw Mp3 players,[36] added an additional strategy, its well-known lawsuit campaign. Since 2003 more than 35,000 potential customers have been sued[37] for seeding[38] tracks owned by the

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[34] One cannot issue a takedown notice for all instances of a song, for example. Doing so would suggest that services are responsible for user infraction. It would also make administrating services like Youtube impossible.

[35] Doctorow, Cory. Content.Tachyon Publications, 2008. Pg 56.

[36] Mason, Matt. The Pirate's Dilemma. Free Press, 2008. Pg 69.

[37] Van Buskirk, Eliot. "RIAA to Stop Suing Music Fans, Cut Them Off Instead." Wired Magazine. 19 Dec 2008. 19 Dec 2008. <http://www.philiplarson.com/blog/?p=5>

[38] Seeding on a P2P network refers to providing all or part of a file that is in one's collection, or library, to other users. This is also referred to as uploading or sharing.

organization's members. The strategy, 'subpoena, settle, sue,'[39] has been labeled as 'spamigation' by the Electronic Frontier Foundation's[40] Brad Templeton, which he describes as "The abuse of bulk legal action. Filing lawsuits in bulk without taking care to assure all defendants are actually at fault. As such, some defendants are bound to be entirely innocent, but this doesn't matter because you don't really plan to take any to trial."[41] Templeton describes the RIAAs efforts in this way for two reasons. First, included amongst those threatened with legal action are the deceased,[42] a family without a computer,[43] and a 66 year old woman with limited computer proficiency (who was not a fan of the allegedly downloaded tracks, "…including I'm a Thug by Trick Daddy."),[44] which suggests that the RIAA obtained the names of people who may have infringed and sent notice without 'doing any homework.' Second, the RIAA has never actually won

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[39] The RIAA obtains an IP address by hiring another company to search for content on P2P networks, and recording the IP addresses of users that have the files. After, ISPs are contacted with a request for contact information, so that a pre-litigation settlement offer may be sent.

[40] The EFF is a non-profit organization dedicated to protecting freedom of speech in the digital age.

[41] Templeton, Brad. "New word: Spamigation." Brad Ideas. 22 Apr 2004. 20 Feb 2009. <http://ideas.4brad.com/archives/000072.html>

[42] Bangeman, Eric. "I sue dead people..." Ars Technica. 4 Feb 2005. 20 Feb 2008. <http://arstechnica.com/old/content/2005/02/4587.ars>

[43] Bylund, Anders. "RIAA sues computer-less family, 234 others, for file sharing." Ars Technica. 24 Apr 2006. 20 Feb 2009. <http://arstechnica.com/old/content/2006/04/6662.ars>

[44] "Grandmother piracy lawsuit dropped." BBC. 25 Sept 2003. 20 Feb 2009. <http://news.bbc.co.uk/2/hi/entertainment/3140160.stm>

one of these trials.[45] Their actions have not been fruitless, though. The threat of substantial damages and legal fees in court has frightened many into taking advantage of offered "discounted [settlement] rate before a formal lawsuit is filed."[46] The RIAA announced in December of 2008 that it would no longer be suing consumers. Their new plan involves cooperating with internet service providers to create a three-strike system for copyright infringement,[47] a movement that has received international attention, which will be discussed later.

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[45] Kravets, David. "Judge Declares Mistrial in RIAA-Jammie Thomas Trial." Wired Magazine. 24 Sept 2008. 20 Feb 2009. <http://www.wired.com/threatlevel/2008/09/not-for-publica/>

[46] Butler, Susan. "RIAA Sends Another Wave of Settlement Letters." Billboard. 20 Sept 2007. 20 Feb 2009. <http://www.billboard.biz/bbbiz/content_display/industry/e3i39f76c017d89e0747eaafd53d458f14b>

[47] Van Buskirk, Eliot. "RIAA to Stop Suing Music Fans, Cut Them Off Instead." Wired Magazine. 19 Dec 2008. 19 Dec 2008. <http://www.philiplarson.com/blog/?p=5>

Swarms in the Bay

Napster, an all-inclusive interface for a centralized P2P protocol,[48] inspired and attracted attention to many other protocols. Much has changed since then, and BitTorrent is a strong example of what powerful P2P technology can do. Consider bandwidth as a resource. In older systems, a seeder[49] would have to provide bandwidth for an entire file for the duration of the download – a considerable amount of time considering most consumers have limited uploading capabilities in comparison to downloading. BitTorrent speeds up the process by using swarming. As each peer downloads a portion of a file, they will upload what they already have to one another. In this situation, an increase in peers will result in a decrease in uploading bandwidth for each seeder,[50] making it useful for distributing even large files. Searching for files to download with the BitTorrent protocol is as simple as a Google search. Certain websites, like The Pirate Bay, are called trackers, and are searchable indexes of .torrent[51] files. The most recent landmark case

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[48] Specific networks using standardized behavioral rules. Napster, the program, allowed for interaction with the Napster protocol. Kazaa and Morpheus allowed for interaction with the FastTrack protocol.

[49] A person that provides all of a file, be it because they are the original supplier or because they have completely downloaded it, is a seeder.

[50] Butler, Susan. "The BitTorrent Protocol Specification." BitTorrent.org. 28 Feb 2008. 20 Feb 2009. <http://www.bittorrent.org/beps/bep_0003.html>

[51] Small files that essentially act as maps to content.

involving P2P surrounds the activities of that site, which is described as "...a [Bulletin Board] for .torrent files, attached to a forum for debate."[52]

Four men involved with The Pirate Bay, based in Sweden, were defendants accused of promoting infringement in a lawsuit that lasted from February until April of 2009. Feelings toward the site were inflamed because takedown notices were often met with demeaning letters, proudly displayed on the website, and because the site allegedly made annual profits in excess of $3 million. This influx came from estimates of advertising revenue, though site operators' claims suggest that profitability was not possible because of infrastructural costs.[53] The Pirate Bay defended itself by suggesting that "the site is a blank space, created by its users. It is a technical service where users can communicate the material they want to communicate,"[54] and also that, "in order to be responsible, the service provider must initiate the transfer. But the [administrators] of The Pirate Bay don't initiate transfers. It's the users that do and they are physically identifiable people. They call themselves names like King Kong...."[55] The justification, now known as the King Kong defense, is familiar – a service is as legal as its most

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[52] Enigmax (Alias). "Pirate Bay Trial Day 9: BitTorrent is Not Evil." TorrentFreak. 26 Feb 2009. 26 Feb 2009. <http://torrentfreak.com/pirate-bay-trial-day-9-bittorrent-is-not-evil-090226/>

[53] Paul, Ryan. "Pirate Bay: Big Revenue Claims Fabricated by Prosecutors." Ars Technica. 1 Feb 2008. 26 Feb 2009. <http://arstechnica.com/tech-policy/news/2008/02/pirate-bay-big-revenue-claims-fabricated-by-prosecutors.ars>

[54] Staff. "On Witness Stand, Co-Founder Defiantly Defends Pirate Bay." Wired Magazine. 19 Feb 2009. 26 Feb 2009. <http://blog.wired.com/27bstroke6/2009/02/gottfrid.html>

[55] Enigmax (Alias). "Day 3 - The Pirate Bay's 'King Kong' Defense." TorrentFreak. 18 Feb 2009. 26 Feb 2009. <http://torrentfreak.com/g-defense-090218/>

authorized use is, and if users abuse it, then they are the ones at fault. Unfortunately, for the four defendants, that defense did not hold up. The aptly named website was not ordered to shut down, but the group of three founders and one linked businessman were sentenced to a year in jail. They were also ordered to pay 30 million Kronor in damages to a group of large media companies, including EMI, Warner Brothers, Sony BMG, Columbia, and Twentieth Century Fox.[56]

What is startling, though, is the language that an assistant judge used to describe how the verdict was decided: "the court first tried whether there was any question of breach of copyright by the file-sharing application and that has been proved... The court then moved on to look at [site operators] and the court found that they knew that material which was protected by copyright but continued to operate the service..."[57] Put simply, the verdict was decided by asking if proven copyright violation had ever occurred, and if the service was purposefully shut down because there was an illegitimate use. If held up in appeal, this decision will set a precedent that makes illegitimate all services that allow users to submit content. The Pirate Bay is still serving up IP, though, so it is questionable as to whether the case itself deters P2P activity. Also in Sweden, the localized version of the European Intellectual Property Rights Enforcement Directive (IPRED)[58] law was put into effect, with extensive results. Internet traffic decreased by one third after one day

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[56] Curry, Neil and Mackay, Mairi. "Four found guilty in landmark Pirate Bay case." CNN. 18 Apr 2009. 18 Apr 2009. <http://edition.cnn.com/2009/TECH/04/17/sweden.piracy.jail/>

[57] "Court jailes Pirate Bay founders." BBC. 17 Apr 2009. 18 Apr 2009. <http://news.bbc.co.uk/2/hi/technology/8003799.stm>

[58] IPRED allows copyright holders to file for court orders that force ISPs identify customers by IP address.

with the new law,[59] while legal purchase of music increased by 100% over the next week.[60] The reactions are not all positive, though. Some ISPs are legally protesting this law by deleting IP address information,[61] while operators of The Pirate Bay are developing an internet anonymity service called IPREDATOR, which can prevent identification through use of virtual private networks (VPNs).[62]

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[59] "Piracy law cuts internet traffic." BBC. 2 Apr 2009. 18 Apr 2009. <http://news.bbc.co.uk/2/hi/technology/7978853.stm>

[60] "Sweden sees boom in legal downloading." The Local. 9 Apr 2009. 18 Apr 2009. <http://www.thelocal.se/18770/20090409/>

[61] "ISP sabotages file sharing law." The Local. 16 Apr 2009. 18 Apr 2009. <http://www.thelocal.se/18882/20090416/>

[62] Enigmax (Alias). "Pirate Bay Announces IPREDATOR Global Anonymity Service." TorrentFreak. 23 Mar 2009. 18 Apr 2009. <http://torrentfreak.com/pirate-bay-announces-ipredator-global-anonymity-service-090323/>

Managing the Network

For the time being, it seems that IP will flow freely; there is no such thing as bad publicity in a time-rich community.[63] "...as Paris Hilton, the Church of Scientology, and the King of Thailand have discovered, taking a piece of information off the Internet is like getting food coloring out of a swimming pool."[64] IP owners are not the only ones concerned with the popularity of P2P, though. Internet service providers (ISPs)[65] have just as much at stake.

> ISPs often struggle with a disproportionately high bandwidth usage by a relatively small portion of their subscribers. This disparity is caused by... P2P, video streaming[66] and large file downloads from file hosting services[67]... These kind of new services are the very reason for new subscribers to sign up for broadband internet access. On the other side, the excessive use by too many simultaneous users certainly drives up infrastructure costs... [and] may adversely affect the quality of experience for interactive applications such as web browsing, internet telephony or online gaming.[68]

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[63] Frugality and free time can often lead to a willingness to deal with the complications and time involved in file sharing. Think of university students.

[64] Doctorow, Cory. Content.Tachyon Publications, 2008. Pg 60.

[65] ISPs, like AT&T and Comcast, sell contracts that allow access to internet infrastructure.

[66] Streaming allows users to visit a web site and experience content as it becomes available, without additional software. Because of its simplicity, many believe that streaming will open up the possibility of infringing on copyright to users with less computer experience.

[67] Many services allow users to upload a file to a server with a certain level of anonymousness. Users can changes the names of these files, then create temporary websites that provide links to download the files.

[68] Ipoque. "Bandwidth Management Solutions for Network Operators." Press release. White Papers. <http://www.ipoque.com/resources/white-papers>

ISPs provide a lot of the infrastructure that makes everything on the internet possible. Their very survival is based on being able to provide quality service at a cost that the majority of people are willing to pay – a cost that goes up as the demand for bandwidth increases. A lot of consumers use the internet in bandwidth non-intensive ways, primarily for browsing the internet.[69] Users of so-called interactive applications, like telephony and gaming, require timely delivery of data. The voice you hear on Skype and the movements of an avatar you are chasing after in a computer game are all just packets of data. If you get lag,[70] not only can you not receive the data that you are meant to, but you cannot put out 'updates' (what you say on Skype or where you move in a computer game) of your own; the movement of data in these situations is not about moving big chunks of data so much as moving what little there is as quickly as possible. Then there is the top tenth of the user population, the ones who tie up the vast majority of available bandwidth, the same consumers that get into legal tussles with IP owners. Because ISPs strive to provide quality service to the majority of users, especially where interactive applications or business needs are concerned, there have been many technological developments that hope to lock down the network.

The first step is locating the sources of network-slowing activity through traffic examination. There are two ways to go about this: active and passive monitoring. Active monitoring is how the RIAA developed lists of people to take legal action against. Search a P2P network for a file, make a list of the IP addresses that have it, switch your search

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[69] Browsing the internet actually involves temporarily downloading the files that make up websites, but they are intentionally small to allow for convenient use and low operational costs.

[70] A break or slowing in the continuous delivery of data.

query, and repeat. Passive monitoring, better described as Big-Brothering, would be the better option if it were not so politically unfeasible. This technique looks at all information flow in a given network and allows for the examination of all unencrypted data,[71] but it treats all users of the network as possible suspects.[72] The data returned from monitoring is not necessarily labeled as "[Program, File]." It requires other technologies in order to determine what the information is, technologies like deep packet inspection (DPI).

DPI scrutinizes network traffic by focusing not just on packet labels, but also on the content. Upon inspection, packets can automatically be accepted, rejected, or recorded based on an administrative ruleset. This can be done on a very wide scale, from company intranets to the entire customer base of an ISP. Network, or net, neutrality comes in to play because some of the products offered by DPI vendors

> Can inspect and shape every single packet—in real time—for nearly a million simultaneous connections while handling 10-gigabit Ethernet speeds and above... When major ISPs deploy these products in their networks, they suddenly know a whole lot more about their users and their traffic. They also gain the ability to block, shape, monitor, and prioritize that traffic...[73]

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[71] It is possible to secure data with encryption measures, essentially requiring a password for it to be recognizable. Everything from a single file to an entire network can be protected in this way.

[72] Ipoque. "Copyright Protection on the Internet." Press release. White Papers. <http://www.ipoque.com/resources/white-papers>.

[73] Anderson, Nate. "Deep packet inspection meets 'Net neutrality, CALEA." Ars Technica. 25 Jul 2007. 18 Apr 2009. <http://arstechnica.com/hardware/news/2007/07/Deep-packet-inspection-meets-net-neutrality.ars>

Freedom or Fences

> As Craig Newmark, founder of Craigslist described it, [a lack of net neutrality] would be like trying to order a pizza and being told by the phone company, 'AT&Ts preferred pizza vendor is Domino's. Press one to connect to Domino's now. If you would still like to order from your neighborhood pizzeria, please hold for three minutes while Domino's guaranteed orders are placed…'[74]

Net neutrality broadly describes an internet without restriction. As communication monitoring advances, making products like DPI mainstream for ISPs, there is a concern with how such technology will be used. ISPs provide the so-called 'last mile' in internet infrastructure, giving them the opportunity to make the final changes to the data delivered to consumers. Some of this data control is helpful to consumers, including the blocking of email spam and all sorts of malware,[75] but a great deal of it is seemingly less useful. Bandwidth throttling, source white listing and blacklisting, and termination of service are uses of DPI, and other monitoring technology, which have been used already. Bandwidth capping also fits into this category, though it requires no monitoring beyond noticing that there is internet usage. Capped bandwidth plans allow ISPs to sell consumers varying amounts of downloading bandwidth, much the same as cell phone service is provided today. This could function well for ISPs and consumers, despite its step away from traditional internet subscription plans, if only it were priced competitively. Time Warner Cable, a telecom provider, began to administer a tiered cap-pricing plan, but ultimately

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[74] Mason, Matt. The Pirate's Dilemma. Free Press, 2008. Pg 58.

[75] Malicious software. This can refer to anything from viruses to functionality in software that, without user permission, uploads information to a given location.

postponed the ordeal after customer uproar[76] and a response from a New York congressman, who referred to the billing plan as an "outrageous plan to tax the American people."[77] Outrage was primarily based on Time Warner Cable's ten percent increase in subscribers without an increase in operating costs. Consumers have largely perceived this as an attempt to increase revenue and force 'calorie counting' of bandwidth usage, in an attempt to limit content streaming via services like Netflix, Youtube, and Hulu.[78]

Bandwidth throttling looks to be a much more popular solution to ISP infrastructure in the near-future because it attempts to solve both of the problems of providers: high usage of infrastructure increasing costs and lowering quality of service. Throttling seeks to prioritize traffic usage by type, as described above, giving businesses and users of interactive applications the largest portion of bandwidth, while scaling back on standard browsing and file-sharing usage. Bandwidth allocation would be done in real-time, assuming powerful enough DPI tools were put into use. General rules could also be put into place, such as slowing P2P usage during office hours.[79] Though these utilitarian measures would insure quality service to businesses and interactive application

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[76] Staff. "Time Warner Cable to shelve new Internet pricing plan." News & Record. 17 Apr 2009. 18 Apr 2009. <http://www.news-record.com/content/2009/04/16/article/report_time_warner_to_stop_new_pricing_plan_in_ny>

[77] Singel, Ryan. "Congressman Wants to Ban Download Caps." Wired Magazine. 14 Apr 2009. 18 Apr 2009. <http://blog.wired.com/business/2009/04/congressman-to.html>

[78] Nguyen, Tuan. "Why Cable ISP Capping is the New DRM, and Suck." Tom's Hardware. 11 Apr 2009. 18 Apr 2009. <http://www.tomshardware.com/news/time-warner-cable-internet-drm,7530.html>

[79] Ipoque. "Bandwidth Management Solutions for Network Operators." Press release. White Papers. <http://www.ipoque.com/resources/white-papers>.

users, many users desire high-speed internet connections primarily for the sake of streaming content and P2P. Beyond that, labeling all P2P traffic as low-priority is harmful to organizations that utilize protocols like BitTorrent to distribute legitimate large files, including free software, updates, and NASA multimedia. The decrease in P2P bandwidth usage from this solution will be dually notable: a subscriber who's ISPs apply throttling rules will have slowdowns, but so will all other users who depended on these subscribers to supply uploading bandwidth, regardless of choice in ISP.[80]

Blacklisting and whitelisting are another possibility for controlling bandwidth flow. By monitoring where data is being requested from and uploaded to, administrators could develop blacklists that would block certain nefarious websites, or whitelists that would only allow accepted portions of the internet to be accessed. Doing so on an ISP level would be extremely unwieldy and whitelisting "would be a serious infringement of freedom of speech,"[81] but this method is effective for private universities, businesses, and other organizations with their own sizable IT infrastructure.

Because of these logistical and legal issues, the so-called three-strikes policy has been proposed in various countries around the world. This system of graduated responses to cases of infringement could lead to a warning, followed by a slowdown of connection speed, and ultimately termination of service entirely. Each country and each suggested version of the policy has different suggested levels of response, but each assumes that

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[80] Ipoque. "Internet Study 2008/2009." Press release. Ipoque Internet Study 2008/2009 Finds Web and Streaming Outgrows P2P Traffic. <http://www.ipoque.com/news-and-events/news/ipoque-internet-study-2008_2009-finds-web-and-streaming-outgrows-p2p-traffic.html>

[81] Ipoque. "Copyright Protection on the Internet." Press release. White Papers. <http://www.ipoque.com/resources/white-papers>

ISPs and IP owners will work together to determine which users are infringing on copyright laws, and ultimately act on the findings of IP owners and collaborators. As previously mentioned, the RIAA has been pushing for this method within the United States.[82] AT&T and Comcast are two companies that have been sure to distance themselves from the RIAA three-strike plan, pointing out that such a plan is nothing new.[83] ISPs already reserve the right to terminate a user's connection due to copyright infringement, within their terms of service, but some have begun to pass along notices issued by IP owners to test response. Further possibilities include notices with sterner language and telephone communication. ISPs are reasonably concerned about such a plan, considering the likelihood of alienating customers that has already been seen within the record industry.

In March of 2009, the European Parliament rejected the three-strikes solution. Critics of the plan acknowledged the importance of secure networks, but pointed out that it is necessary to "monitor and restrict... techniques that threaten our freedoms..."[84] Governmental leaders in France have been a strong proponent of the plan, but there has

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[82] Van Buskirk, Eliot. "RIAA to Stop Suing Music Fans, Cut Them Off Instead." Wired Magazine. 19 Dec 2008. 19 Dec 2008. <http://www.philiplarson.com/blog/?p=5>

[83] Sandoval, Greg. "AT&T first to test RIAA antipiracy plan." CNET. 24 Mar 2009. 18 Apr 2009. <http://news.cnet.com/8301-1023_3-10203799-93.html>

[84] Enigmax (Alias). "EU Rejects '3 Strikes' for File-Sharers." TorrentFreak. 27 Mar 2009. 18 Apr 2009. <http://torrentfreak.com/eu-rejects-3-strikes-for-file-sharers-090327/>

been opposition within parliament.[85] Ireland's largest ISP, Eircom, agreed to use the method, in an attempt to avoid further legal action, after a legal struggle with major record labels.[86] In Italy, the graduated response plan has received support, largely due to IP owners having few other options. "In January 2007, Rome's top criminal court announced that downloading films, music or software from the Internet should not be considered a crime if done for no profit..."[87] New Zealand's Minister for Commerce stated that the use of Section 92A, a local version of the solution, "in its current format would not be appropriate given the level of uncertainty around its operation."[88] The executive chairman of InternetNZ, a nonprofit concerned with protecting and promoting the internet in New Zealand, feels that eventual termination of service is a disproportionate punishment for the offense, and that forcing "ISPs... to be copyright judges and policemen was never an acceptable situation..."[89] Google responded specifically to New Zealand's Copyright Act Section 92A, but the response applies to the

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[85] Bremner, Charles. "Setback for Sarkozy as French Parliament rejects controversial internet law." Times Online. 9 Apr 2009. 18 Apr 2009. <http://www.timesonline.co.uk/tol/news/world/europe/article6067641.ece>

[86] Andrews, Robert. "Ireland Gets France's Three Strikes; Eircom Will Boot Persistent File-Sharers." PaidContent.org. 29 Jan 2009. 18 Apr 2009. <http://www.paidcontent.org/entry/419-ireland-gets-frances-three-strikes-eircom-will-boot-persistent-file-sha/>

[87] Enigmax (Alias). "Italy to Follow French 3 Strikes Model for P2P." TorrentFreak. 21 Jan 2009. 18 Apr 2009. <http://torrentfreak.com/italy-to-follow-french-3-strikes-model-for-p2p-090121/>

[88] Enigmax (Alias). "Kiwis Scrap Controversial '3 Strikes' Anti-Piracy Law." TorrentFreak. 23 Mar 2009. 18 Apr 2009. <http://torrentfreak.com/kiwis-scrap-controversial-3-strikes-anti-piracy-law-090323/>

[89] Enigmax (Alias). "Kiwis Scrap Controversial '3 Strikes' Anti-Piracy Law." TorrentFreak. 23 Mar 2009. 18 Apr 2009. <http://torrentfreak.com/kiwis-scrap-controversial-3-strikes-anti-piracy-law-090323/>

graduated response solution in general. Google pointed out that 37% of internet infringement notices were invalid, and that following such a plan puts liberties at risk "...by threatening to terminate users' internet access based on mere allegations and reverse the burden of proof onto a user to establish there was no infringement…"[90]

Extending this concept can lead to frightful consequences. Analyzing internet traffic can mean a loss of privacy, freedoms of speech and press. Making these freedoms legal does not matter if there is a perceived threat to exercising them. The National Security Agency (NSA) in America uses its warrantless domestic surveillance program[91] to search for terrorist activity. Terror can have a very wide definition, though, and the NSA can examine any user's email and search activity under such a guise, as long as their ISP is compliant.

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[90] Gibbons, Ted. "Google submission hammers section 92A." PC World New Zealand. 16 Mar 2009. 18 Apr 2009. <http://pcworld.co.nz/pcworld/pcw.nsf/feature/93FEDCEF6636CF90CC25757A0072B4B7>

[91] "Fox still echoing administration's 'terrorist surveillance program' label." Media Matters. 08 Feb 2006. 25 Apr 2009. <http://mediamatters.org/items/200602080006>

Ugly Ducklings

There are two solutions to piracy that are neither legislative or in the best interests of ISPs. The first, a combination of counterfeit file injection and exploitation of technical vulnerabilities in P2P infrastructure, is worth mentioning despite its fall from popularity as P2P has evolved. IP owners used to utilize file injection as a way to make it hard for users to find content they were looking for. Editing an Mp3 so that it repeats the first thirty seconds of the track is an example, while purposefully mislabeling content was also a popular option. Making it harder to get what was being sought out was meant to act as a disincentive, but it actually helped the BitTorrent protocol become as popular as it is now. Because .torrent files are typically distributed along with commenting systems, one person noticing the issue can 'flag' the file, notifying other users that the content is somehow flawed.[92] Also, these files are still being transferred and consuming bandwidth, so ISPs are experiencing the same amount of traffic demand. Exploiting network weaknesses typically involves manipulating the triggers that show a file transfer as being complete, so that files never actually finalizes downloading. This solution is not particularly effective, though, because "vulnerabilities will be fixed. The short-lived effectiveness makes the measures expensive and only worthwhile for a limited number of highly valuable files."[93] Exploiting network weaknesses can also refer to hacking P2P

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[92] Ipoque. "Copyright Protection on the Internet." Press release. White Papers. <http://www.ipoque.com/resources/white-papers>.

[93] Ipoque. "Copyright Protection on the Internet." Press release. White Papers. <http://www.ipoque.com/resources/white-papers>.

infrastructure, which is a dually bad solution because it is both illegal and likely to result in retaliation.

Concerns over digital rights management (DRM), the other method of piracy prevention, are much like those of network neutrality. While network neutrality advocates are apprehensive of how much power ISPs should have in observing and manipulating consumer usage, DRM critics point out how much control DRM attempts to place upon consumers through the content and software itself. Understanding DRM is easiest, once again, when taking the music industry as an example. Imagine that you have legally purchased an Mp3 of a song that is protected with DRM software. Depending on where you purchased it from and what type of DRM the file comes with, you might only be able to play that song a certain number of times, listen to it with certain software or hardware, or be unable to use that song at all without verifying your purchase over certain increments of time on the internet. Music services like Ruckus, Yahoo! Music Store, Sony Connect, and Microsoft MSN Music Store are examples of the latter limitation. These services utilize licensing servers that tell song files that they are playable when a user logs in to that service on a computer. Because these services have begun to shut their doors, customers are left with libraries of music files that are either instantly, or will soon be, unplayable because of license expiration, or stranded on the computer that they were last licensed on.[94] Errors in licensing can leave users with unusable content, even when a company is still in operation, as players of Epic's *Gears of War 2* experienced on January 28, 2009. "It seems that Gears of War came with a built-in shut off date… Epic's

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[94] Healey, Jon. "Yahoo pulls an MSN Music (only faster)." LA Times. 23 Jul 2008. 18 Apr 2009. <http://opinion.latimes.com/bitplayer/2008/07/yahoo-pulls-and.html>

response? 'We're working on it.'"[95] Apple's iTunes Store, the most popular legal seller of digitized music, offered tracks for $1 that could be authorized on up to five computers at once, and could only officially be played using the iTunes player or an iPod Mp3 player. In January of 2009, Apple recognized that the use of security can "act as a disincentive to legal commerce,"[96] and announced that they would be selling their tracks DRM-free starting in April and utilizing variable pricing based on demand for a track.[97]

Use of DRM extends beyond the realm of music files, though. Anything digitized can have DRM technology applied to it, with unsavory results.

> We instinctively and rightly recoil from the idea that our personal, private dealings in our homes should be subject to oversight from some company from whom we've bought something. We bought it. It's ours. Even when we rent things, like cars, we recoil from the idea that Hertz might track our movements, or stick a camera in the steering wheel.[98]

DRM cannot exercise judgment over what constitutes fair use of content, leaving users with DVDs that cannot be copied with fear of their children ruining them, or that they only be played in devices with specific country codes. When these situations arise where a consumer feels that their product is fundamentally flawed, they will be much less

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[95] Kuchera, Ben. "Gears of War screwup makes PC version unplayable." Ars Technica. 29 Jan 2009. 18 Apr 2009. <http://arstechnica.com/gaming/news/2009/01/pc-gears-of-war-drm-causes-title-to-shut-down-starting-today.ars>

[96] Biddie, Peter, Paul England, Marcus Peinado, and Bryan Willman. Darknet and the Future of Content Distribution. 18 Nov. 2002. Microsoft Corporation.

[97] Arango, Tim. "Depite iTunes Accord, Music Labels Still Fret." New York Times. 1 Feb 2009. 18 Apr 2009. <http://www.nytimes.com/2009/02/02/business/media/02apple.html?_r=2>

[98] Doctorow, Cory. "How Copyright Broke." Locus Magazine. 2006. 18 Apr 2009. <http://www.locusmag.com/2006/Issues/09DoctorowCommentary.html>

likely to buy a similar product any longer. They will find out where to get their next movie or CD online for free and without limitations on usage, and it will be easy to do because the idea of DRM technology is ultimately flawed; once one instance of a protected piece of content is rendered unprotected, that content is free. Some fraction of users will always outwit any DRM technology applied to content.[99] It does not matter how complicated that technology is because all DRM shares a flaw: this content that is locked up is ultimately intended for use. Mp3s can be re-recorded, ebooks can be typed or copied over, and software that requires a key has the blueprint for that key within its code.[100] Because of the dislike for and ease of overcoming DRM, content piracy cannot simply be stopped at the source. These defenses do not stop the 'average user,' either, because internet access is so widespread and some people will write about how to break DRM as an intellectual exercise or simply because they do not like the company that made a product. The DMCA makes decrypting illegal, and famously resulted in the arrest of Dmitry Sklyarov. This Russian national had developed software that circumvented the DRM on ebooks, allowing users to convert them into the more common and usable portable document format (PDF).[101]

> The eBook Reader application restricts the way a purchaser of an eBook can use the file -- including restricting reselling, copying, backing up and printing -- rights traditionally given to the purchaser of items like books under the First Sale and Fair Use legal doctrines. By

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[99] Biddie, Peter, Paul England, Marcus Peinado, and Bryan Willman. Darknet and the Future of Content Distribution. 18 Nov. 2002. Microsoft Corporation.

[100] Doctorow, Cory. Content.Tachyon Publications, 2008. Pg 7.

[101] PDF, unlike formats that Sklyarov's converted, could be moved from computer to computer, translated, and copied from.

> changing the file to a PDF, Advanced eBook Processor allows users to do all of these things to the original eBook.[102]

Sklyarov was arrested at Def Con,[103] "a conference well-populated by law enforcement officials, and one that is also known for candid information disclosure." Sklyarov was eventually freed and allowed to return to Russia, but the case is an example of why technology intellectuals are viewed as social deviants. The DMCA also protects against breaking Content Scramble System and other DVD backup-prevention technologies, technologies that leave consumers unable to use their purchased goods as they want to.

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[102] "Russian Arrested for Alleged DMCA Violations." The Industry Standard. 18 Jul 2001. 18 Apr 2009. <http://www.thestandard.com/article/0,1902,28048,00.html>

[103] An informational meeting for computer security technology. It is self-described as the oldest-continuous, and amongst the largest, hacker conventions.

The Intangible, Darknets and Externalities

Legislative and technological attempts to stop the internet gift economy are have so far been ineffective, or unpopular because of possible intrusion on citizens liberties. Victories in court have usually been minor and tools that enable traffic control, like DPI, are expensive. With every development against piracy, there is a news article that informs more people about services like Napster and The Pirate Bay. When these users read about court rulings that ultimately do not label file-sharing services as illegal, they join the swarm. Those users grow accustomed to such services and, when threatened, may consider joining the darknet.[104] Typical P2P networks are open to the public, while these darknets have no public entrance.[105] Darknets are intangible without specific knowledge of their existence. Making a network private decreases the number of users, and files, that are available for transacting, but it also means that anyone who does not know how to get into the network will have a hard time discovering what is being exchanged. This technology is not new, but it is becoming simpler and more widespread – in the same way that internet usage in general did before it. LimeWire, a P2P client, allows for simple setup of darknets in version 5.1.1, and already has a massive user following that will be exposed to the concept once they update their software.[106] Other services, like The Pirate

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[104] Though this once often referred to any P2P network where a user could illegally obtain content, the term has recently been used in the terms discussed in this paper.

[105] Anderson, Nate. "Darknets and the future of P2P investigators." Ars Technica. 5 Mar 2009. 18 Apr 2009. <http://arstechnica.com/tech-policy/news/2009/03/the-new-version-of-p2p.ars>

[106] Anderson, Nate. "Darknets and the future of P2P investigators." Ars Technica. 5 Mar 2009. 18 Apr 2009. <http://arstechnica.com/tech-policy/news/2009/03/the-new-version-of-p2p.ars>

Bay's previously mentioned IPREDATOR, aim to make the whole internet a darknet for users willing to cash in on the efforts of network experts. These networks can only be controlled with presently "criminalistic methods involving high effort."[107] It is possible to shut off the traffic of entire protocols with DPI, even if they are encrypted, but that would end the use of technologies with widespread legal uses, like BitTorrent. These darknets would not be an issue, except for a general lack of understanding in copyright law that leads to widespread acceptance of piracy.

Content was once intellectual property bound to specific physical objects, like albums and VHS tapes, and these objects are expensive. A CD's total cost, from creation to sale, is about half of its income.[108] Digitization meant that equipment was still necessary to experience the sights and sounds, but the content could be purely intellectual property on any storage medium. An internet connection is not even necessary to get this content. Portable hard drives and disc burners are commonplace now, meaning that a network of friends can – albeit less conveniently - spread their media amongst one another, and much more efficiently than in a time of mix tapes and record swapping.[109] The Electronic Frontier Foundation's John Perry Barlow, considering content in terms of bits and bytes, felt it would be "difficult to continue to apply the Adam Smithian economic principles regarding the relationship between scarcity and value to any

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[107] Ipoque. "Copyright Protection on the Internet." Press release. White Papers. <http://www.ipoque.com/resources/white-papers>

[108] Chadwick, Andrew. Internet Politics. Oxford University Press, USA, 2006. Pg 313.

[109] Biddie, Peter, Paul England, Marcus Peinado, and Bryan Willman. Darknet and the Future of Content Distribution. 18 Nov. 2002. Microsoft Corporation.

products that could be reproduced and distributed infinitely at zero cost."[110] Another economic principle, the tragedy of the commons, suggests that public goods will be harmed as individuals use them, considering only their own interests. Before computer storage, having an everlasting resource or multiple copies of that resource was only an idea within the realm of science fiction. Scarcity does not apply to information, aside from network availability, and does not degrade with use.[111] Everyone can use the Pythagorean Theorem and, in the same way, can watch an intangible copy of the same movie without affecting its quality. The internet, which is file-sharing, "amplifies the status of information as a public good."[112] Attempting to prevent IP from entering this pool of knowledge is a poor business decision. IP will end up on the internet if users want it, so not having it officially present and purchasable means losing any sales from those willing to pay. The discography of the Beatles falls into this category.[113]

> There's a word for all the stuff we do with creative works — all the conversing, retelling, singing, acting out, drawing, and thinking: we call it culture. Culture's… older than copyright… The fact that we have a bottomless appetite for songs to sing together… is the reason that people will pay money for these things… the reason copyright exists is because culture creates a market for creative works.[114]

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[110] Doctorow, Cory. Content.Tachyon Publications, 2008. Pg XVIII.

[111] A storage medium for information may wear out, but the information can be backed up to other mediums for safekeeping.

[112] Chadwick, Andrew. Internet Politics. Oxford University Press, USA, 2006. Pg 306.

[113] Enigmax (Alias). "Day 3 - The Pirate Bay's 'King Kong' Defense." TorrentFreak. 18 Feb 2009. 26 Feb 2009. <http://torrentfreak.com/g-defense-090218/>

[114] Doctorow, Cory. "Why I Copyfight." Locus Magazine. November 2008. 18 Apr 2009. <http://www.locusmag.com/Features/2008/11/cory-doctorow-why-i-copyfight.html>

Because content is now as easily shared as any bedtime story or lullaby, it can become part of culture much faster than ever before. Sharing has never been against the law. Sharing and copying are the same things on the internet, though, so IP now has a tension with typically culture-oriented externalities. Property rights have always been important for rewarding the fruits of labor, typically with money, but the internet gift economy is a market driven by externalities. "There is, presumably, a limited supply of reputation and attention in the world at any point in time. These are the new scarcities — and the world of free exists mostly to acquire these valuable assets for the sake of a business model to be identified later."[115] Because information can spread so cheaply and easily, and because there are 'competitors' out there now who put out their creations for free, the time has come to compete for acknowledgement. Ease of spreading information can be seen in how large the user population of the internet is, but the cost of such spread can be seen by looking at one of Yahoo's actions. "Its free webmail service, would provide unlimited storage... as in 'infinite.' So the market price of online storage, at least for email, has now fallen to zero." Storage space and bandwidth do not need to be literally without cost to achieve this result. Zeno, a Greek philosopher, considered the dichotomy paradox. Continually subdivide cost and it will approach zero, even though it will never reach it.[116]

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[115] Anderson, Chris. "Free! Why $0.00 Is the Future of Business." Wired Magazine. 25 Feb 2008. 18 Apr 2009. <http://www.wired.com/techbiz/it/magazine/16-03/ff_free?currentPage=all>

[116] Anderson, Chris. "Free! Why $0.00 Is the Future of Business." Wired Magazine. 25 Feb 2008. 18 Apr 2009. <http://www.wired.com/techbiz/it/magazine/16-03/ff_free?currentPage=all>

Fighting Pirates

> We understand now that piracy is a business model… It exists to serve a need in the market for consumers who want TV content on demand. Pirates compete the same way we do - through quality, price and availability. We don't like the model but we realize it's competitive enough to make it a major competitor going forward.[117]

Anne Sweeney, Disney co-chair, recognized that old business models are starting to fray in a culture where piracy is so pervasive. John Kennedy, chief executive and chairman of the International Federation of the Phonographic Industry,[118] spoke of one case of old business models during The Pirate Bay trial. He mentioned that an estimated 20% of music industry revenue is invested in finding new artists. He also went on to say that file-sharing has little effect on live performance promotion, insisting that every success in this area is linked to a previously successful recording career and sales, and stated that "it's impossible to compete with free,"[119] despite the success of Apple and Amazon.com digital content stores. Why is it that CD sales are not where the industry wants them to be? A 2004 Harvard study compared the number of downloads that an album or track would get on P2P networks to market performance. The correlation of downloads to sales was "'statistically less than zero…' File-sharing was actually boosting sales for the top 25 percent of albums that had more than six hundred thousands sales…

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[117] Reid, Ben. "Disney: 'piracy is a business model.'" AfterDawn.com. 10 Oct 2006. 18 Apr 2009. <http://www.afterdawn.com/news/archive/8009.cfm>

[118] IFPI, an international organization with similar goals as the RIAA.

[119] Enigmax (Alias). "Pirate Bay Trial Day 8: Pirates Kill the Music Biz.'" TorrentFreak. 25 Feb 2009. 18 Apr 2009. <http://torrentfreak.com/the-pirate-bay-trial-day-8-090225/>

For every 150 songs downloaded, sales jumped by one CD…"[120] The willingness to spend time experiencing content and to spend money on it are two different things. In many cases, then, an infringing download of a piece of content is not a loss of sale. Piracy is free distribution for a product to its unintended market. Or, as author Cory Doctorow put it, "piracy is progressive taxation… being well-enough known to be pirated [is] a crowning achievement."[121] He makes all of his books available for free as ebooks, and admits that most downloaders do not end up as buyers, but they would not have done so anyway. All told, "distributing nearly a million copies of [his] book has cost [him] nothing."

A good deal of why CD sales are where they are now can be blamed on six factors. Several of these factors can explain why the sale of any IP is less than industries intend. First, there is more to do now; technological and cultural advances have replaced 'listening to records' with 'playing video games' and other activities. Getting together for the sake of listening to an album is not unheard of, but it is often an activity for audiophiles. Second, unlike records and cassettes, Mp3s do not degrade over time. The format can also be stored on any medium and played on a series of devices, so there is no need to buy multiple copies of an album. Third, music production tools, once a major barrier to entry, are now readily accessible by the masses for low, or no, cost. Now small labels, and even the artists themselves, can make an album and skip the major label-artist relationship. Fourth, in the same way that making an album is much easier, distributing that album via the internet means that CDs are not necessary. This is especially true for

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[120] Mason, Matt. The Pirate's Dilemma. Free Press, 2008. Pg 157.

[121] Doctorow, Cory. Content.Tachyon Publications, 2008. Pg 73.

solo artists who handle the entire process themselves. Fifth, the increasing popularity of free legal access to media makes buying unnecessary. Whether its downloading songs by small artists that just want to build a fan base, streaming music from services like Pandora, or buying an ever-cheaper radio, it is not necessary to own music to hear it. Sixth, because Mp3s are sold as singles, as well as whole albums, it is not necessary to purchase a whole album. Often, albums will be released with 'filler' tracks that are not as marketable as the singles that make it to the radio. By making Mp3s available, consumers are not forced to purchase the whole thing.

Despite all of the failed barriers to IP piracy's spread, the creators of content will continue to succeed economically. Matt Mason, author of *The Pirate's Dilemma*, described a solution to that dilemma. Companies are in a same market. When pirates enter that market, each company will not necessarily lose a portion of market share equal to the amount of 'customers' that side with pirates. Those customers are the ones that were already not buying whatever product because having it was not worth the cost, and they now get exposure to what they never would have before. Those pirate customers may become new or indirect customers in a market because of their freebies. Pirates can cut into the paying market, but that portion of the market is also unsatisfied. If the original companies decide to compete with piracy by lowering prices, improving delivery or support, or whatever quality customers were previously unsatisfied with, they may actually gain customers that they never would have without the drive to innovate.[122]

[122] Mason, Matt. The Pirate's Dilemma. Free Press, 2008. Pg 234-9.

"We use these services [like Tivo and Youtube] because they're like the original Napster: easy, well-designed, functional."[123] Time is an important externality. Some time-rich markets may be willing to put in tremendous effort to get free content, but the savings need to be worth the effort. That is why iTunes, streamlined and efficient, has so successfully competed with free alternatives, and why Lost, the television show, is still pirated. The website TorrentFreak, which focuses on file-sharing news, maintains a ranking of the most pirated shows on BitTorrent each week. Lost is usually on top,[124] despite its free availability with limited commercial interruption, from ABC. Watching an episode from the website requires a fair amount of navigation on a busy website, as well as the installation of additional software, and tiered video quality that decreases with internet connection speed.[125]

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[123] Doctorow, Cory. Content.Tachyon Publications, 2008. Pg 49.

[124] Ernesto (Alias). "'Lost' Most Pirated TV-Show on BitTorrent." TorrentFreak. 27 Jan. 2009. 25 Apr 2009. <http://torrentfreak.com/lost-most-pirated-tv-show-on-bittorrent-090127/>

[125] Though this may be considered a feature, faster load times do not make up for the pixilated appearance of lowest levels of quality.

Spread the Content, Price Zero-Scarcity

Consumers have learned how to tune out the bombardments of advertising, which is why products themselves are often the best advertisements. "People are now able to filter out [ads]. It doesn't matter how big you make your logo… we can filter it out… we will choose to engage with the little thing sprayed on the sidewalk because that's more interesting."[126] That is where viral marketing and freebies come in. Viral advertisements seek to gain following because of their own innovation. This type of advertising was used heavily for the film *Dark Knight* in 2008, which made over $1 billion combined in domestic and international theaters.[127] Freebies in digital content are different from such offers in the past; "With physical stuff, samples must be doled out sparingly -- there are real costs to be paid. With bits, the free versions are too cheap to meter and can be spread far and wide."[128] Monty Python's DVD sales climbed to second highest, an increase of 23,000% after posting the following message on their Youtube channel:

> We're letting you see absolutely everything for free. So there! But we want something in return. None of your driveling, mindless comments. Instead, we want you to click on the links, buy our movies & TV shows and soften our pain and disgust at being ripped off all these years.[129]

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[126] Mason, Matt. The Pirate's Dilemma. Free Press, 2008. Pg 125.

[127] "Dark Knight breaks $1bn, Oscars Night.'" Movie Chronicles. 22 Feb 2009. 18 Apr 2009. <http://batman-dark-knight.moviechronicles.com/category/batman-news/sales/>

[128] Anderson, Chris. "The Economics of Giving It Away." Movie Chronicles. 2 Feb 2009. 18 Apr 2009. <http://online.wsj.com/article/SB123335678420235003.html>

[129] Schroeder, Stan. "Can Free Content Boost Your Sales? Yes, It Can." Mashable. 22 Jan 2009. 18 Apr 2009. <http://mashable.com/2009/01/22/youtube-boost-sales/>

If *Dark Knight* and Monty Python DVD sales are any suggestion, there is still money to be made from digitized content, so long as a market is both reached effectively and thoroughly impressed. That is no different than successful business has always been, there are just more competitors that like to give out free samples, or that just want you to know their name. How do you price a product that people are just as likely to steal, then? That propensity to steal is explained by Josh Kopelman's penny gap. "People think demand is elastic and that volume falls in a straight line as price rises, but the truth is that zero is one market and any other price is another…"[130] Introducing a product for free to build a customer base, then figuring out how to monetize it, is not a bad idea. Microsoft's BizSpark program grants companies younger than three years old, and with under $1 million in revenues, license to their online business software. When those companies get bigger and more experienced, "Microsoft is betting that they'll keep using its software as paying customers."[131] Microsoft has a similar strategy with software piracy in China, and around the world. Bill Gates vocalized his opinion on this before the turn of the millennium; "…as long as they're going to steal it, we want them to steal ours. They'll get sort of addicted, and then we'll somehow figure out how to collect…"[132]

There are several ways to monetize content, beyond the sale of physical or digital copies, which support the idea that "the information economy is about selling everything

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[130] Anderson, Chris. "Free! Why $0.00 Is the Future of Business." Wired Magazine. 25 Feb 2008. 18 Apr 2009. <http://www.wired.com/techbiz/it/magazine/16-03/ff_free?currentPage=all>

[131] Anderson, Chris. "The Economics of Giving It Away." Movie Chronicles. 2 Feb 2009. 18 Apr 2009. <http://online.wsj.com/article/SB123335678420235003.html>

[132] Mason, Matt. The Pirate's Dilemma. Free Press, 2008. Pg 238.

except information."[133] Along with the sale of physical copies of content is the possibility of merchandising objects, like clothing. Selling digital copies of content, if done on a large scale, can make use of microtransactions. Apple's iTunes store, especially the application sub-store for the iPhone, has been wildly successful by setting up such a system where users can quickly and easily purchase bite-sized chunks of IP, like a song or application. Payment information is saved and the infrastructure is secure, so all users need to do is login to their account and everything is a click away. Selling information unrelated to the content being distributed can also generate revenue, and can be done in terms of advertisement and collection of user data. Advertising has allowed periodicals, television, and radio, to operate for decades, and the internet is another great venue for such income generation. Unlike other mediums, a good deal of internet sites' communities lack easily segmented markets, but Google's Adsense has provided a solution to that problem. The program places contextually relevant advertisements by scanning site content and assigning keywords with values, based on frequency, relation to other terms, and so on.[134] Facebook, the social networking giant, has allowed some users to rate the ads that appear on the site, in an attempt to determine what users enjoy (or at

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[133] Doctorow, Cory. Content.Tachyon Publications, 2008. Pg 42.

[134] Dean, Jeffrey. "United States Patent Application: 0040059708." US Patent & Trademark Office. 25 Mar 2004. 18 Apr 2009. <http://appft1.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=1&f=G&l=50&co1=AND&d=PG01&s1=20040059708&OS=20040059708&RS=20040059708>

least, do not mind) seeing.[135] Selling user data, like contact information and purchase history, is also possible. Facebook has taken this idea one step farther by creating an environment where users want to talk about themselves, through their profiles. An application of cataloguing this data is polling users with certain interests on specific topics.

Content creators can sell varied levels of quality or access to their IP. For multimedia, special episodes could be released to subscribers, or higher quality content could be made available to paying customers. In terms of services, selling access to more powerful features is a common way of monetizing. Flickr, the photo sharing service, lets 'pro' users have unlimited storage and advertisement-free browsing,[136] while Skype, the telephony service, lets users contact non-Skype users by paying fees.[137] Another varied level of content is the provision of live services or performances. Authors are a prime example:

> If the book does well and spreads, people will want more from the author. They might want him to help them implement ideas from the book. They might want him to do speaking engagements… [or] hire him as a consultant. …and if you release a great book, there will be demand. An author can make a real name for himself if a book does well. …He'll have a reputation as an expert and be in demand for radio and TV shows.[138]

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[135] Caverly, Doug. "Facebook Letting Some Users Rate Ads." Web Pro News. 25 Mar 2004. 18 Apr 2009. <http://www.webpronews.com/topnews/2008/06/05/facebook-letting-some-users-rate-ads>

[136] "Flickr: Upgrade to a pro account." Flickr. 18 Apr 2009. <http://www.flickr.com/upgrade/>

[137] "Price - what's free and what costs a little on Skype." Skype. 18 Apr 2009. <http://www.skype.com/prices/>

[138] Babauta, Leo. "The Culture of Free, and The Power of Less." Zen Habits. January 2009. 18 Apr 2009. <http://zenhabits.net/2009/01/the-culture-of-free-and-the-power-of-less/>

This applies to all creators of IP, but performers are another strong example. What better way to advertise ability than to give away what you do? Generate a community by giving away music, then selling tickets to a live event. "The more your music gets copied, the more people there are who will pay to see you perform it live."[139]

Using a pay-what-you-want, 'tip jar,' or donation method is also effective. Tip jar technology works very well if the infrastructure for it is widespread – setting up a Paypal or Google Checkout account and placing a button on a website that links to 'tipping' a dollar, for example. Radiohead, as previously mentioned, had great success with letting fans pay whatever they wanted to download the album. GOOD magazine tested the pay-what-you-want method and had similar results.

> Old Subscription Model (average 41-day period) = Total orders: 1,025. Average price: $20.00. Total cash raised for nonprofits: $20,500. New Subscription Model (first 41 days) = Total orders: 2,789. Average price: $13.49. Total cash raised for nonprofits: $37,624. 34% of all orders are still at the $20 level and 7% of all subscribers choose a price above $20. The average price is down but the money we've raised is up by 84%.[140]

Wikipedia sustains itself completely by taking donations from users, and recently raised more than $6 million from over 125,000 donors.[141] Tips to Wikipedia also take the

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[139] Doctorow, Cory. "Media-Morphosis: How the Internet Will Devour, Transform, or Destroy Your Favorite Medium." Internet Revolution. 20 Feb 2009. 18 Apr 2009. <http://www.internetevolution.com/document.asp?doc_id=171555&page_number=3>

[140] Staff. "Radiohead Did It And So Did We." Good Magazine. 22 Oct 2008. 18 Apr 2009. <http://www.good.is/?p=12805>

[141] "Wikipedia fundraiser surpasses $6million USD January 2009." WikiMedia Foundation. Jan 2009. 18 Apr 2009.

form of labor, the final way to monetize content. The 'free encyclopedia' allows anyone to edit, create, and delete entries. Despite the popularity of pointing out the flaws of Wikipedia, that it is an ungoverned and invalid mess, looking at the entry on Israel reveals the true power of letting a community create.

> Back and forth the editors went... But eventually, one of them blinked. An editor moderated the doctrine just a little, conceding a single point to the other. And the other responded in kind. In this way, turn by turn, all those with a strong opinion on the matter negotiated a kind of Truth, a collection of statements that everyone could agree represented as neutral a depiction of Israel as was likely to emerge. Whereupon, the joint authors of this marvelous document joined forces and fought back-to-back to resist the revisions of other doctrinaires who came later, preserving their hard-won peace.[142]

This service is only as valuable as the labor of its community. Another source, Ebay, lets users put in some effort to create online auctions. These auctions, byproducts of labor and infrastructure, are why Ebay is valuable. The website generates revenue by combining labor exchange with microtransactions, charging users to list items up for auction and taking a percentage of the final selling cost.[143]

The final option for monetizing content is licensing. Businesses are unlikely to steal for-pay software, or other IP, because of legal vulnerabilities that go beyond those of the average citizen. They may be tempted to save money by using free software, as

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<http://wikimediafoundation.org/wiki/Press_releases/Wikipedia_fundraiser_surpasses_$6million_USD_January_2009>

[142] Doctorow, Cory. Content.Tachyon Publications, 2008. Pg 169.

[143] "eBay Inc. - Investor FAQs." eBay. 18 Apr 2009. <ttp://investor.ebay.com/faq.cfm>

France's national police force did with the Ubuntu Linux operating system,[144] which has saved an estimated 50 million Euro since beginning to use Linux in 2004.[145] The computer gaming industry is also considering a license-centric system for protecting IP by requiring users to log in to an account before they play. They are welcome to install the game on as many systems as they like with this plan, but they will be unable to play until they can verify that they have a purchased a valid license to play.[146] If content is to be used to turn a profit, its creator should certainly be a part of it. This is not rent-seeking behavior, but the sale of a tool to be used for profit, and is much the reason why free college courses, like the Massachusetts Institute of Technology's Open Courseware, will not replace paid degrees.

Understanding the issue that consumers have with paying for music may be seen as a misunderstanding of licensing for noncommercial usage. When purchasing records or CDs, there was a physical object being purchased. The cost of that object represented distribution and production costs of the CD, as well a percentage for record labels providing marketing and music production equipment, and the remainder going to artists. Without the artists, none of the other parties would have had a product to be involved

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[144] Ubuntu is a distribution of the open source Linux operating system. It is is heavily developed by its user base, which is freely available. Ubuntu Linux is a success story for content that is free, both in terms of price and in terms of liberty.

[145] Paul, Ryan. "French Police: we saved millions of euros by adopting Ubuntu." Ars Technica. 11 Mar 2009. 25 Apr 2009. <http://arstechnica.com/open-source/news/2009/03/french-police-saves-millions-of-euros-by-adopting-ubuntu.ars>

[146] Kuchera, Ben. "Don't call it DRM: Microsoft explains new gaming piracy tech." Ars Technica. 24 Mar 2009. 25 Apr 2009. <http://arstechnica.com/gaming/news/2009/03/microsoft-1.ars>

with, so the percentage going to the artist is recognition that their product has created a profit for others. Take away that physical object and what consumers are left with is a piece of content. This thing does not degrade with use, or as it spreads, and it does not allow for any sort of gain - other than entertainment value. Because entertainment is a luxury, it is a legal form of rent-seeking behavior.[147] The creation of IP is laborious, but after initial production that information can be spread as much as desired at the cost of distribution – the very low cost of bandwidth and storage. The consumer views IP as an object to be appreciated, possibly even to the point of tipping the creator, but not to be licensed for personal entertainment. "This may not support a record label with offices on five continents, but it can probably put a comparable (if not larger) amount of money into the pockets of a comparable (if not larger) quantity of artists."[148]

It appears that the future of monetizing content means going beyond distributing that content, by creating situations where piracy is actually expected and competed against by offering things that cannot be or are not worth pirating. Stake in a community, like contributors to Wikipedia or purchasing fans of Radiohead, cannot be downloaded. Only by transferring resources, be they liquid capital or time and labor, can a person enter such a community. Until then, users are an unaligned group that is unsatisfied by what is available, or satisfied by the provisions of a rare creator who does not seek or need input.

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[147] Rent-seeking refers to obtaining uncompensated value from others, without any sort of labor.

[148] Doctorow, Cory. "Media-Morphosis: How the Internet Will Devour, Transform, or Destroy Your Favorite Medium." Internet Revolution. 20 Feb 2009. 18 Apr 2009. <http://www.internetevolution.com/document.asp?doc_id=171555&page_number=3>

Flying the Flag

The internet is blooming around the world and the pirates are the ones utilizing the infrastructure. Pirates are not members of some computer ultra-literate, unjustly thieving deviant class. Obtaining content is simple because the internet is such a success; a large, curious audience has the infrastructure to easily find what they seek. Those in the know do not generate nonsense, they write about what they understand or invent to improve and simplify, to build a following and be rewarded – even if just with attention. Injustice is not a factor in file-sharing; you cannot deprive someone of something that has effectively no scarcity, you can only provide free advertising to a market that may, as studies show, be the biggest content buyers.[149] ISPs have begun to implement practices and technologies that aim to slow information transfer to protect infrastructure, while IP owners work within legal systems around the world to criminalize file-sharing.

Hacker culture is not a new phenomenon that came about with the perceived anonymity of the internet, hacking is simply finding new uses for existing tools; some call it deviance while others call it civil disobedience or innovation. Illegal radio is an example of the former. "For some it's a way to promote a musical freedom of choice not offered by commercial, playlist driven radio. For others it's a way to promote freedom, period."[150] Hollywood gives a glimpse of the latter.

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[149] Cheng, Jacqui. "Study: pirates biggest music buyers. Labels: yeah, right." Ars Technica. 20 Apr 2009. 25 Apr 2009. <http://arstechnica.com/media/news/2009/04/study-pirates-buy-tons-more-music-than-average-folks.ars>

[150] Mason, Matt. The Pirate's Dilemma. Free Press, 2008. Pg 46.

> Edison... [invented] filmmaking, and demanded a licensing fee from those making movies with this technology. This caused a band of filmmaking pirates, among them a man named William, to flee until Edison's patent expired. These pirates continue to operate there, albeit legally now, in the town they founded: Hollywood. William's last name? Fox.[151]

Piracy can often be used as countermeasure in industries with perceived flaws. "Mark Twain once said that he never let schooling interfere with his education; now getting into a school doesn't have to be a barrier to entry for anyone who wants to learn."[152] MIT provides free access to college courses, the TED conference is designed to spread radical ideas virally, and anyone can become an amateur enthusiast of the arts by spending enough time on the web. This near-zero-cost philanthropy, the internet gift economy, is why people are happy to make and share media with their friends on Youtube. None of this content has any scarcity - supply is effectively infinite. Napster let users share music; BitTorrent provided the infrastructure for them to quickly share everything from needlepoint patterns to free (as in price and speech) operating systems. Entertainment content acts as a microcosm of issues surrounding the IP industry as a whole. It is important to reward creators for their work, but doing so at the cost of consumer, and societal, wellbeing not the desired outcome. Entertainment and technology industries are already discussing the use of broadcast flag systems that would make it very difficult to exercise fair use and record digital television programming. This flag, “a bit of digital code in each television show that… [prevents recording] or else puts limits on the recording’s lifespan and portability. [This means building] recorders that will obey

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[151] Mason, Matt. The Pirate’s Dilemma. Free Press, 2008. Pg 37.

[152] Mason, Matt. The Pirate’s Dilemma. Free Press, 2008. Pg 163.

those commands…"[153] Would a consumer ever buy a product that is purposefully less functional than previous technology, unless there were no other options? Take it a step further and look at pharmaceutical IP. Research and development in this industry has incredibly high costs that should be made back, but such pursuits should not extend to denying lifesaving drugs to markets that cannot afford them. In this case, companies in India observed the difference between rewarding creators and hurting consumers.

> Accused of "piracy" by Western transnational drug companies, India [defended] its right to make cheaper generic medicines on legal and ethical grounds. The charges were renewed when an Indian pharmaceutical company recently offered poor countries an anti-AIDS medication at a fraction of its international price…[154]

These companies felt that selling pirated generics to a market that had no access to the product anyway was not sapping away revenue streams from anyone. The use of powerful laws could stop the flow of drugs to the sick, but ever more powerful technology could stop the flow of information to a society. A watchful eye on internet traffic can spot P2P traffic or it can look for criticism of the government. Freedom of the press would seem like an unreachable dream if widespread privacy of email is taken away. In the United States, the NSA already has a warrantless domestic surveillance program. To condone a state of nature[155] in terms of IP law and internet governance is not healthy for a society, but neither is the alternative.

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[153] Rogers, Michael. "Will Hollywood lock up our movies?" MSNBC. 18 Jul 2005. 25 Apr 2009. <http://www.msnbc.msn.com/id/8617750/page/2/>

[154] Devraj, Ranjit. "India: Government rebuts drug-piracy charge." Third World Network. 11 Mar 2001. 25 Apr 2009. <http://www.twnside.org.sg/title/rebuts.htm>

[155] A theoretical state before rule of law, where each person has a natural right to self-preservation.

> The control over what people communicate is lost and we have to adapt to this new state of things… To monitor all communications, fight all new digital technologies and spread a culture of fear in what should be a free and open communication network is not a desirable option.[156]

Magnus Eriksson, who communicated the above after the verdict was passed on the men involved with The Pirate Bay, was amongst the organizers of the group that eventually spawned the website, more popular than ever because of trial coverage.[157] Monetizing content is not about criminalizing the alternative to buying it. Alienate customers and they are gone. Provide them with a well-made service and you may be able to replicate the success that iTunes has; Apple sold over a billion songs between the services beginning in 2003 and 2006.[158] Now that their offerings are not wrapped in DRM, who knows how well they will succeed. Internet and IP legislation are not just important for creators or internet enthusiasts. Over one billion people use the internet now, so it is not a fringe luxury any longer. IP law, because of the prevalence of the internet, is mainstream now. Capitalism makes culture another market, and sharing culture is the same as copying it if you share with all of the members of the largest existing network. There is not anything wrong with that, as long as legal systems around the world recognize where and when punitive action is necessary. Remixing and wanting

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[156] Curry, Neil and Mackay, Mairi. "Four found guilty in landmark Pirate Bay case." CNN. 18 Apr 2009. 18 Apr 2009. <http://edition.cnn.com/2009/TECH/04/17/sweden.piracy.jail/>

[157] "Why court case has made Pirate Bay more popular than ever." Irish Times. 24 Apr 2009. 25 Apr 2009. <http://www.irishtimes.com/newspaper/theticket/2009/0424/1224245277003.html>

[158] Doctorow, Cory. "How Copyright Broke." Locus Magazine. 2006. 18 Apr 2009. <http://www.locusmag.com/2006/Issues/09DoctorowCommentary.html>

to experience are not stealing, and they do not necessitate forced bankruptcy and a network lockdown.

For those that believe such activity does require an iron response, the unfortunate truth is that it will not matter. "There are hundreds of Pirate Bays out there. Close them down and hundreds more will appear. You can put every person who has ever hosted an illegal file or downloaded one into jail tomorrow and it won't make a bit of difference."[159] Adopting laws that completely criminalize consumer IP infringement will be as effective as the laws that criminalize speeding, as they should be – these activities are equally commonplace now. Strengthen those laws or technologically prevent IP infringement outright and you tilt the scales of justice in favor of creators, providing the framework to threaten the liberalism of your society. Considering those factors, not only is it likely that information will never be any harder to acquire for $0.00, but it is the aim of all those who respect and aspire to freedom that information remain free.

[159] "Why court case has made Pirate Bay more popular than ever." Irish Times. 24 Apr 2009. 25 Apr 2009. <http://www.irishtimes.com/newspaper/theticket/2009/0424/1224245277003.html>

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