

**Confessions Of A Ripper:
MP3, Digital Rights Management
And The Devil of Disintermediation**

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The Interesting Question

The Communications Decency Act

The Digital Millennium Copyright Act

The Child Online Pornography Act

Why so much truly thoughtless government regulation?

The Current Milieu

"To promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries".

- Article 1, Section 8, US Constitution

"Ultimately, our copyright system exists to benefit the public by providing incentives for the creation of new works. It accomplishes this by guaranteeing an economic return to creators whose efforts achieve popular success."

- Aoki et alia, letter to House Judiciary Subcommittee on Courts and Intellectual Property, May 2000

"No question the most insidious virus in the midst of this illegal downloading of music is piracy on the Net. It goes by many names, and its apologists offer a myriad of excuses. This illegal file-sharing and ripping of music is pervasive, out of control, and it's oh-so-criminal. Many of the nominees here tonight, especially the new and less established artists are in immediate danger of being marginalized out of our business."

- RIAA CEO Michael Greene

"We're fighting our own terrorist war."

- MPAA president Jack Valenti

"I believe the private sector is capable -- through marketplace negotiations -- of adopting standards that will ensure the secure transmission of copyrighted content on the Internet and over the airwaves. But given the pace of private talks so far, the private sector needs a nudge."

- Senator Ernest Hollings

The Proximate Issue

- The Motion Picture Experts Group Layer III Audio Encoding Standard (MP3), developed in the mid-1980s at the Fraunhofer Institute to handle certain kinds of relatively obscure problems associated with audio data in motion picture contexts, is converted by a small number of ‘midnight’ programmers in the mid 1990s into a Windows-based mechanism for creating high-fidelity, radically-compressed music tracks, and release the technology – at no cost – to the Internet community
- The technology is broadly accepted almost instantly
 - (1) First of all, as a mechanism for rendering one’s own “music collection” transportable
 - (2) Then, as a mechanism for sharing music tracks via “uninspectable” distribution mechanisms (private file servers, electronic mail)
 - (3) Then, as a protocol for data packages offered “for download” in brokered networks of like-minded near-anonymous consumers (the Napster era)
 - (4) And, at the same time, as a mechanism for artists with leverage and brand equity (e.g., Prince) or no access to distribution channels (e.g., Cowboy Junkies) to distribute their IP direct to consumers
 - (5) Then (today) as a protocol for data packages offered “for download” in unbrokered peer-to-peer distribution environments
- The volume of the transactions in (3) and (4), combined with pressure from recording artists to regain control of their work product, becomes sufficient high to cause the intermediaries between the producer and consumer to decide MP3 is a commercial threat to the traditional recording industry value chain...and attacks on grounds of copyright infringement/theft...

The Broader Issues

- The philosophical issue: does any information-based product ever arise ex nihilo? If not, where is the line between influence, reference and appropriation? If information wants to be free, can any system opposed to that fundamental free-ness work?
- The ethical issue: am I stealing from someone when I download an MP3 version of a song I have not paid for? And if I am stealing, do I care?
- The legal issue: can 19th century models of intellectual property rights vested in a named author with time limitations, licensing rights and institutional redress mechanisms work at all in the 21st century?
- The governmental issue: Are federal initiatives in support of digital rights management about law, fairness and equity, or is the government acting as the (probably unwitting) agent of the institutions who stand to lose everything if disintermediation prevails?
- The sociological issue: what will happen to producer-consumer relationships in IP-driven markets over the next decade or so?
- The technological issue: is there any way that technology can be used 'against itself' to enforce over-the-road definitions of IP rights in an over-the-wire world?
- The economic issue: what does all this mean for those of us who (a) earn our livings in IP-intensive trades and/or (b) work and live in IP-driven economies?

The Broader Issues

IP is IP is IP is IP

- We are talking, these days, about music, largely because MP3 is a mass (consumer) (electronics) phenomenon, and because it is technical compact and discrete (easily transportable)
- The leading edge of ripper culture is already dealing, internationally, in:
 - Current “NYT bestseller” class e-texts and other ‘print media’ products
 - Domestic and foreign films and videos (including television broadcasts)
 - Software
 - ‘Pure’ information: mailing lists, identity metadata, etc.
- We have to proof our thinking against all classes of IP that can be digitally represented with high fidelity...
- ...And we have to be cognizant of the fact that each type of media has certain unique characteristics that will cause it to pursue a different path to digital ‘freedom’
 - E.g., the online reading of a Tom Clancy novel – can you do it?
 - E.g., the problem of software support – sure, I can install it, but can I make it work and stay current without the vendor’s help?

Some Historical Principles

The Peterloo Principle

Disruptive, disintermediating technologies – particularly those that amplify the speed or volume of transmission of information or that rearrange the system by which information is organized, packaged, distributed and priced, have, throughout history, been opposed by institutional power, and have without exception pursued their aims without hindrance from institutional power, except in those cases where institutional power successfully suppressed those technologies by suppressing their human agents.

Some Historical Principles

The 2600 Principle

If you can encrypt it in software, I can decrypt it.

If you can embed it in firmware, I can reverse-engineer it.

If you can lock it in VLSI, I can unlock it.

If you can protect it, I can steal it.

If you try, I will, too.

Some Historical Principles

The Napster Principle

Any network with one or a few central nodes, or a single administrative authority, is easy to disable.

Any system with no fixed structure, no centralized administrative authority, and simple rules for ingress and egress is impossible to map, let alone control.

A network must have no center if it is to survive and thrive.

The Philosophical Issue

Influence, Reference, Appropriation

- At the heart of IP law is the notion that a work of IP is the owned product of its creator...
- ...yet we recognize various kinds of “affiliations” between distinct, owned works of IP, all of which suggest open boundaries rather than clear lines of demarcation...
 - ...so much so that we have both definitional problems...
 - ...and enforcement problems...
 - ...and the cost for appropriating when I “intended” to reference is effectively zero in the most public social forums and the largest IP markets...
- Consider
 - Citation and its twin plagiarism
 - Intertextual reference in poetry, music and pictorial arts
 - The (re)use of loops, samples and tracks in modern music
- The line between fair use and unfair use is premised on the notion of a “chunk” smaller than the object and larger than its smallest constituent component (the note, the word, the brushstroke) that is “reasonable”...
- It’s a game that may employ us, but does it serve us well?

The Ethical Issue

Am I Stealing From UB40? Or From Virgin Records?

- Ripping per se is illegal, but uninteresting
- It is the (re)distribution of ripped songs that is interesting
 - In the form of “bootleg” CDs sold in grey or black markets
 - In the form of “free” or “in-kind” exchanges in online markets
 - It is important to remember that most online exchanges are in-kind, not “free” – I must contribute (possibly stolen) property in order to receive (possibly stolen) property
- Consumer behavior across demographic groups suggests that consumers either do not understand that they are engaged in theft, or do not care that they are engaged in theft
- “It’s not theft if someone else made it, and I take it – It’s only theft if I make it and someone else takes it...”

The Ethical Issue

Am I Stealing From UB40? Or From Virgin Records?

List Price Of Album		\$	18.98	
Less Packaging Fee		\$	4.75	Amortized R&D Costs
Net Royalty-Rate Price		\$	14.23	
Royalty Rate	10%	\$	1.42	
Gross Per-Album Royalty		\$	1.42	
Less Free Rate	19.5%	\$	0.28	Discount To Large Retailers
		\$	1.15	
Less Returns	0%	\$	-	Returns From Distribution Channels
		\$	1.15	
Net Per-Album Royalty		\$	1.15	
Less Management Fee	15%	\$	0.17	
Less Accounting Fee	5%	\$	0.06	
Less Attorney Fee	5%	\$	0.06	
Net Singer-Songwriter Payment		\$	0.86	
Songwriter Royalty	45%	\$	0.39	
Net Singer Payment		\$	0.47	
Average Track Count	8			
Per-Song Payment		\$	0.06	

Source: Recording Industry Association of America

These numbers suggest several business opportunities to me... Most would be considered illegal...

Retail Price		\$	18.98	
Retail Margin	21%	\$	14.99	
Discounted Wholesale Price	15%	\$	12.75	
Distribution Margin	10%	\$	11.47	
Cost of Goods Sold		\$	1.37	
Net Royalty Payments		\$	1.15	
Label Gross Margin		\$	8.96	
Label Cost of Operations		\$	8.04	70% of price to distributor
Label Net Income	8%	\$	0.92	

The Governmental Issue

Can Ernest Hollings Help?

- Michael Porter noted, in his famous “five forces model” of competition, that government regulation had the propensity to alter the terms of competition in a market in radical and discontinuous ways
- Oracle, Apple and others have successfully demonstrated, in the Microsoft/DOJ fiasco, the extent to which the legislative machinery – executive, legislative and judicial – is:
 - not up to the task of understanding the complexity of the issues
 - interested in playing large roles in the public spectacle
 - susceptible to simplistic villain/victim narratives that make it easy to (mis)understand who should be punished, and how
- The DMCA, particular the provisions governing circumvention and required mechanisms to prevent circumvention, are stunning in their complete lack of understanding about how the technologies implicated in the act operate, and how the people who produce and use these technologies believe and behave
- And then there’s Title V of the Act, the “Vessel Hull Design Protection Act”....

The Sociological Issue

How Can Artists Make A Living In The Digital Age?

- The Case of William Godwin (1780s)
- The Case of Charles Dickens (1860s)
- The Case of Robert Ludlum (1970s)
- The Case of Stephen Ambrose (2000s)
- Conclusions
 - Godwinian and Dickensian models of producer-consumer relationships are viable in a global networked economy
 - Ludlumesque and Ambrosian models of producer-consumer relationships are not viable in a global networked economy
 - The 'return' to earlier, simpler modes of production and distribution will constrict or obviate certain kinds of phenomena:
 - The Menudo Phenomenon (except in its Colonel Parker/Sun Records incarnation)
 - The Rockstar Lifestyle Phenomenon
- Bottom Line: People who love Don Henley will spend money to keep Don Henley producing music, if they have a means to do so, and will probably, net-net, put more money in Don Henley's pocket than they do today, while spending less money for the same amount of music.

The Technological Issue

Effective Digital Rights Management Means PKI

- The only mechanism that will truly force a consumer to protect the intellectual property rights of a producer is one in which the cost to the consumer for a failure to enforce is (1) personal, (2) immediate and (3) potentially devastating
- Public key encryption infrastructure (PKI), in which a digital object is encoded with my public key, and can only be decoded with my private key, is the only technological paradigm that can possibly enforce current IP models and protect current business models, because, to share a PKI-encrypted object, I must give you my private key: my electronic identity, which you may then re-use with impunity...
- Unfortunately, the Federal Government has, with its requirements for key escrow (surely something Attorney General Ashcroft would insist is essential for US national security) and its generally uninformed approach to PKI and digital security in general, has made meaningful PKI impossible in the short term
- The only other mechanism that might work would be a proprietary alternative to PKI, implemented, sold and enforced by a single vendor...but we have indicated to Microsoft that they cannot play this role legally...

The Economic Issue

Who Gets Disintermediated? Who Gains or Regains Economic Power?

- The .COM revolution promised “one degree of separation” between producer and consumer, promised “intimacy”, promised the quick and ruthless expulsion of non-value-added (logistical) components of industry value chains, particularly in digital product markets
- Software, music, film, text, graphics – all these markets are under extraordinary pressure (legal and otherwise) to bring prices in line with costs, and to reduce costs by reducing logistical costs
- In software, the open source software movement is moving quickly into for-license software markets, including the corporate data center
- In music, it’s a virtual certainty that the “big 5” media conglomerates will find themselves forced out of most music segments other than the “engineered teen pop” segment characterized by manufactured phenomena like Backstreet Boys and Brittany Spears, and that artists will reclaim older business models in which they cooperate directly with their consumer groups – this process has already begun, as the “big 5” drop artists who cannot reach ‘break-even’ (500,000 copies)
- In film, the booming direct-to-rental models are the best the industry can do until technological barriers (bandwidth constraints) are removed
- In text, publishing companies are – basically – foundering, further marginalizing the printed text as a dominant cultural form, and heading generally the way of the RIAA

Coda

- The MP3 furor is not about college students stealing other people's property; it is the first truly mass-cultural example of the inevitable clash between the over-the-road and over-the-wire cultures and their codes of behavior – this is a sea change, and we need to treat it as such
- The next IP regime will be as different from our essentially 19th century models of IP protection as those were from the producer-owned, producer-published model of the 18th century
- The response, to date, to the MP3 phenomenon, suggests that very few parties to the issues
 - Understand the systemic nature of the problem they are proposing to 'solve'
 - Understand the extent to which they are uninformed or underinformed about both the extent of the problem and the complexity of the 'solutions'
 - Understand the extent to which spectacle does no one any good in the long run, regardless of its effects on campaign contributions and election results

Q&A