

**The Future Digital Economy
Digital Content – Creation, Distribution and Access**

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The aspect of digital technology that has most visibly and powerfully affected the entertainment industry is the ease with which digital (as opposed to analog) recordings can be reproduced and redistributed. The simplicity with which perfect copies of audio and video recordings can be created and then distributed to millions has: reduced the effectiveness of copyright law; destabilized traditional business models; and given rise to most of the law-reform and business initiatives we've been discussing at this conference. The process of determining how, in this altered environment, we can ensure that creators and intermediaries are fairly compensated for their labor and their contributions to our culture, while simultaneously exploiting the economic and cultural benefits of the new technology, will likely continue for some time.

My comments tonight will focus not on that crucial, continuing challenge, but on two other dimensions of digital technology. They are less well known and, as yet, have had less impact on the industry. But, I will argue, they will rapidly assume increased importance. The first is the resurgence of amateurism. The second is a sharp increase in opportunities for differential pricing. In each instance, I will begin by setting the innovation into historical context, then identify some questions it poses for policymakers today.

1.

For millennia, most non-graphic art was transmitted and apprehended through live performances. Stories were recited. Compositions were sung or played. Plays were performed. And so forth. Technology very slowly changed that. The invention, in the 15th c., of the printing press and then, in 1820, of the steam printing press enabled the gradual displacement of live performances by the distribution of durable embodiments of creative works. This process reached music and drama only in the late 19th century – with the development of the phonograph in 1877 and the motion picture camera in the 1880s. Thereafter, as the quality of recordings improved and their availability increased, the numbers of people who listened to or watched those recordings steadily expanded and the number who watched live performances erratically declined.

The cultural implications of this transition were profound. At the most basic level, people came to devote extraordinary amounts of time to the consumption of recordings. In the United States today, the average adult listens to or watches recorded music and films 3000 hours per year. That's roughly 8 hours a day, 7 days a week. Less obvious but equally fundamental, the number of performers – both professional and amateur – have during the past century steadily declined. In the late nineteenth and early

twentieth centuries, hundreds of soloists toured the United States and Europe, amateur musical groups abounded, and most upper-class and upper-middle-class households had a piano (and the capacity to play it was a valued and widely acquired skill). As high quality recordings and playback devices became ever more widely available, all of these activities became much less common. In other words, while both the number of people who consume entertainment – and the amount they consume – grew, the activity of creating that content became ever more concentrated in ever fewer hands.

Suddenly, in the past few years, the trend toward concentration has reversed – and the tide is now running strongly in the other direction. Partly this is due to a remarkable decline in the cost of high-quality digital recording equipment. In 1980, the equipment necessary to make a high-quality album cost aprx. \$50,000; today, a laptop and less than \$1000 of software can do better. Partly it is due to the malleability of those digital recordings, enabling them to be modified, edited, recombined. And partly it is due to the increased availability of software (like Final Cut Pro) that enables such modifications, and the declining amounts of skills necessary to operate that software.

The net effect has been extraordinary. A rich stew of examples may be found in Henry Jenkins' forthcoming book, Convergence Culture. Here are a few: Last year Shane Faleux, along with over 100 unpaid collaborators, produced an amateur 40-minute film, Star Wars Revelations. (To be honest, in my judgment the acting is so-so, but the special effects are very impressive.) Released for free on the web, more than 1 million people downloaded it. During the first week in which they were available on Amazon, DVDs of the extremely low-budget amateur parody, George Lucas in Love, outsold those of The Phantom Menace. A 2003 Star Wars Fan Film Contest, run by AtomFilms, attracted 250 entries. Hundreds of amateur filmmakers are now using Fisher-Price Pixelvision cameras to make avant-guard movies, making a virtue of their grainy images. Other examples are explicated in Yochai Benkler's, The Wealth of Networks. He describes, for instance, the increasingly rich art form known as "machinima," in which characters and stories are created within computer games, recorded, and then distributed on the Internet as short films. Many more examples can be found in the music industry. For instance, thousands of amateur musical webcasts are now available through Live365.com, offering an enormous variety of both mainstream and esoteric fare. The data from the 2005 Pew survey that John Horrigan summarized in his presentation here today is consistent with these anecdotes. One of the central findings of the Pew Study, for those of you who could not attend, is that broadband Internet users produce and share content at a high rate, not merely consume it.

Businesses are beginning to accommodate this outpouring of amateur creativity. Leading the way are the game makers, many of which cater to users' desires to build their own worlds. In the vanguard in this respect is Second Life, but there are many others. Soon on the consumer electronics market will be a system that, through a combination of hardware, software, and metadata, enables people at home to select, on scales of 1 to 10, the amount of violence, nudity, and harsh language they wish to watch in their movies. In other words, customized expurgated versions of major releases will be prepared for them

on the fly. Some – though not all – directors, producers, and studios are embracing and encouraging the fan fiction culture that radiates from their works.

Should we applaud – and use the legal system to reinforce this trend – or should we resist it? To that fundamental question, there is no simple answer. On one hand, it offers three important cultural benefits. First, the cultivation of semiotic democracy. People are more engaged, less alienated, when they have a voice in the construction of their cultural environment, the cloud of images and symbols through which they move. Second, a change in the character of creativity. Amateur activity of the sort exemplified by these projects is less individualist or hierarchical, more collaborative and playful, than the style one finds in centralized, professional media firms. Third, the availability on the Internet of the fruits of such projects would result in a radical increase in the diversity of the entertainment content available to consumers.

On the other hand, the resurgence of amateurism poses threats to other important values. To the extent that consumers' creativity involves the manipulation of recordings made by others, it may threaten artistic integrity. Taken to its logical conclusion, it could deprive us – in the field of non-graphic art – of stable cultural reference points in relationship to which we can define ourselves. In the end, there would be no canonical versions of blockbuster films – meaning versions that you can assume your neighbor has seen; everyone would be watching different variants. Finally, there's the question of quality. Amateur productions may be good for the amateurs, but there's a reason why many people, given a choice, would prefer to listen to professional recordings of professional musicians playing Mozart. If energy and money are diverted from the latter to the former, we might end up with reduced quality in professionally produced entertainment.

If one concludes that the advantages exceed the disadvantages, one would want to adjust the legal system to accommodate this trend – specifically, by: expanding rights to engage in transformative, rather than consumptive, fair uses; curtailing moral rights for materials distributed online; and limiting the ability of ISPs to choose which content flows through their pipes or to charge more for uploading than downloading. If one concludes that the disadvantages exceed the advantages, one would do the reverse.

2.

The second of the two effects of digital technology – its capacity to facilitate differential pricing -- is even less obvious. Indeed, at first glance, it seems that digital technology will corrode rather than foster the capacity of content creators to charge different consumers different prices for access to their products. But I'll try to persuade you otherwise.

First some history: Once upon a time, differential pricing was the rule, not the exception. For millennia, goods were exchanged primarily through individualized and usually face-to-face transactions. Prices, the outcome of haggling, varied widely. As

markets grew and goods gradually became more standardized, price differences diminished -- until, by the eighteenth and early nineteenth-century, national commodities markets for many goods appeared -- with relatively stable prices for goods of a particular quality. At the same time, legal doctrines first emerged that cast doubt on the validity of contracts for prices substantially higher or lower than the market price.

There were important exceptions to this trend, however. A subset of firms with market power and the capacity to prevent arbitrage continued to differentiate among customers, charging more those who could pay more. The practice was especially common in the transportation industries, most of which were characterized by high fixed costs and low marginal costs. For example, as Andrew Odlyzko has shown, price discrimination was practiced in the sixteenth-century Danish Sound Tolls; in the rates charged for using canals in China, England, and France; during the nineteenth century, in the railroad industries in England and the United States; and finally and most notoriously, in the modern airline industry.

Gradually, however, popular hostility to the practice of charging whatever each individual or class of consumer could pay at a given time intensified, spurring increasingly restrictive government regulation. The forms of that hostility have varied over time -- from Aristotelian notions of proportionality in exchanges; to the "just price" theories of Thomas Aquinas and the School of Salamanca, an ideology that still has substantial force among English peasants in the eighteenth century; to the Granger movement and Populism in the late-nineteenth United States; to what contemporary social psychologists and marketing experts refer to as "equity theory." But, however it has been expressed, that resistance has been remarkably constant over the centuries. So, for example, when in 2000 it came to light that Coca-Cola was considering deploying vending machines that would charge more for a can of soda when the weather was hot than when it was cold, consumers' anger -- manifested in threats to douse the new machines with icewater to force the price down -- quickly forced Coke to abandon the venture. The same fate befell Amazon's brief experiment in differential pricing of DVDs.

In sum, there's a tension. Price discrimination is tempting, especially in industries characterized by market power, high fixed costs, and low marginal costs. But consumers, as Pigou long ago warned, usually resent it when they are aware of it.

That tension can be seen in the entertainment industry. On one hand, when they can, the creators of audio and video recordings engage in differential pricing -- for example, through the "windowing" system for the release of motion pictures (about which Alex Ogilvie spoke today) and through regional coding of DVDs and DVD players, making possible geographic price discrimination. On the other hand, consumer resistance and the first-sale doctrine in copyright law, have set sharp limits on the practice.

At first glance, digital technology seems to be making price discrimination in the entertainment industry harder, not easier. In particular, the unauthorized distribution

throughout the world of high-quality digital copies of movies almost immediately after – or even before – their first release in theatres is undermining the windowing system, forcing studios to shorten or, in a few recent instances, to eliminate altogether the gap between theatrical release and DVD release.

But this corrosive effect will be short lived. Much more important, in the long run, will be aspects of the digital revolution that facilitate price discrimination. They include: the speed with which prices of goods, including recordings, distributed online can be changed; the large amounts of information that online sellers can gather – and then share – about their customers by simply observing their behavior; and the capacity of technological protection systems to prevent or limit resales of recordings, thus preventing arbitrage.

Again, the valence of this looming trend is not clear. Most economists (led by Hal Varian, who is here at this conference) think that the net impact on social welfare of price discrimination of the sort I’ve been sketching is ambiguous, varying by context – depending, among other things, on the demand curves in the subparts of the relevant industry and the pricing practices that the sellers would engage in were they unable to discriminate. Modern views concerning the fairness of the practice vary even more widely. Some commentators stress the potential of price discrimination to achieve a progressive redistribution of wealth and to increase the ability of the poor to gain access to works of the intellect. Others see it – or, more precisely, see some forms of it – as increasing the granularity of social and economic life. “Versioning” (also known as “second-degree” price discrimination) is especially unpopular. Deliberately reducing the quality of a good in order to make it available cheaply to poorer customers without undermining the demand by the more wealthy for a full-featured version is commonly denounced, in Emile Dupuit’s words – as “cruel and mean.”

In the future, firms in the online dimension of the entertainment industry will have to decide whether they will engage in differential pricing. Policymakers, for their part, will have to decide if they are going to abet it or frustrate it. In doing so, both groups will have to address at least two difficult and, as yet, unanswered questions:

First, exactly what underlies popular resistance to differential pricing, and how tractable is it? The empirical work on this issue is thin. Some studies suggest that transparency is necessary and sufficient to satisfy consumers. Don’t deceive them; tell them what your pricing policies are and they will cease to complain. Other studies suggest that, so long as consumers feel they have choices, that they are not being channelled into subgroups against their will, they are happy. The practical implication of that finding, if generally true, would be that versioning should be more acceptable than other forms of price discrimination – despite the fact that it is often worse from a social welfare standpoint. Still other studies suggest so-called “third-degree” price discrimination is acceptable to consumers so long as the categories into which they are sorted – such as student status or age – seem to them fair. Who is right on this issue may

determine whether entertainment providers pursue price discrimination openly or covertly, using such techniques as bundling and tying to conceal what they are doing.

Second, what about privacy? Specifically, should consumers be persuaded or, if necessary required, to withhold personal information from the online sellers of entertainment? Access to personal information – data concerning individual consumers’ wealth, tastes, habits, etc. – facilitates price discrimination. Sellers thus have a strong incentive to gather and then exchange such data. Should government impede their efforts to do so? The answer may seem obvious if the data is being gathered surreptitiously or against the will of consumers. But what if fully informed consumers are willing to part with that data – say, for a price break? Suppose, for example, that iTunes offers its customers a new deal: Let us track what you listen to – and share that information with advertisers – and we’ll give you tracks for 50 cents, instead of 99. Many consumers would likely agree. Scholars disagree sharply on whether arrangements of this sort are acceptable. Policymakers will be forced to confront the issue soon.

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So, to sum up, those, I suggest, are the two biggest issues that will demand attention once the challenges presented by promiscuous reproduction and distribution of digital content on the Internet have been resolved: How should we respond to or accommodate the resurgence of amateurism, the decentralization of creative power? And to what extent should we exploit the rapidly increasing potential for differential pricing in the online environment? The answer to neither question is clear, but they will soon demand our attention.