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Kathy Bowrey, “Fertile ground: Law, innovation and creative technologies”*

This paper explores the current obsession in copyright law with technology and innovation policy.

The notion that innovation creates value underpins much conventional copyright discourse, feeding from and back into broader discussions about technological change and the economy. Many of the technologies in issue involve reproduction and dissemination, suggesting that value is inherent in the technology itself. The idea that innovation is threatened by copyright law is also of currency, informing recent and ongoing global ‘digital agenda’ law reform. This paper explores the usefulness of both these concepts, from an historical perspective.

To evaluate the contemporary political rhetoric, which is currently so full of ideological assertions about the public good of private rights and rich in myths and excuses for copyright, I begin with a table that plots a timeline. The table tracks:

- the alleged date of the invention;
- award of patents;
- the commercialisation and distribution of the innovation in the form of new products and services; and,
- the arrival of associated copyright law reforms.

This information is provided to remind us of some basic facts about the relationship between technological innovation and copyright’s expansion.

Whilst copyright law and subject matter have clearly expanded over the past two hundred years, the table points to the complexity of factors implicated in this development. There is no simple, neat trajectory or standard pattern that leaps out from the data, so perhaps there is little evidence to support the view that technological innovation necessitates any inevitable copyright law reform.

The point here is not simply to remind us that copyright development is multifactorial. What is more interesting is the interplay of influences on the law in relation to different inventions. What was it about the technologies and their markets that influenced the path and content of law reform? A detour into a number of examples illustrates the different economic, social, jurisprudential and cultural concerns that have affected the shape and character of the rights we have today.

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An overview of these technological and legal histories leads to a clear conclusion about metanarratives on copyright: abstract justifications for this body of law and ambit claims about the relationship between law and innovation are inherently suspect. We should be highly sceptical of any simplified generalisations that are made about a copyright/technology/innovation nexus. Further whilst unfashionable to say so, technological and industrial specificity has always coloured copyright's history. This specificity makes for difficulties in explaining what copyright law is to others. However the specificity of the law has primarily been a good thing - at least to the extent that the legal response to innovation has taken into account a broad range of competition and social policy concerns. It is this contextual evaluation of the scope and purpose of copyright law, in light of real economic and social realities, that is mostly missing from the law and technology debate today. The foundation and sense of contemporary copyright law reform is all the more weaker for that loss.

Does technology disrupt the status quo?

From an historical perspective copyright law has always been read in terms of technological change. It was a body of law that expanded from the literary model to embrace other 'like' reproductive technologies. In this sense copyright's development can be read as inextricably linked with innovation and legislative responsiveness to the commodity potential inherent in technological change. Indeed in some regards the growth of the legal subject matter and extent of the rights awarded provides a rough guide to the significance of the new technical innovation and the related potential growth of commodity forms.

The following quote from Edward Samuels captures this sentiment well:

Each of these industries (book publishing; music, sound recording and radio; movie & television; computer and computer software) to some extent has followed a similar birth and growth pattern: a new technology radically alters the economics of an existing industry, while giving birth to a whole new industry. In the case of books, it was the photocopying machine. In the case of music, it was the invention of the phonograph, and later the development of radio and the inexpensive home tape recorder. In the case of drama, it was the invention of the motion picture, and later television. In the case of computers and computer programs, the new industry altered the economics of a wide range of creative works, from books to paintings to music to video. The explosive growth of the Internet likewise promises (or threatens) to alter every aspect in the creation and distribution of a wide range of works.¹

A simplistic reading of Table #1 "Innovation and Expansion of Copyright Subject Matter and Rights" suggests there is some empirical evidence in

¹ E. Samuels, "Thomas Jefferson Never Saw Anything like this", in *The Illustrated Story of Copyright* (New York: St Martins, 2000), 3-4.

support of the thesis that new technology disrupts the status quo, as evidenced by the quantifiable legal changes to copyright that eventuated.

In this kind of schematic, the status quo is represented as a world with 'established' technologies, economies and laws, disrupted by the scandal of innovation. Innovation is presented as a 'natural' activity and essentially as a good thing. But innovation is 'special', serendipitous, a consequence of the human brain's fecundity accompanied by mechanical diligence in applying that knowledge to practical ends. The technology that results from this activity is taken to 'disrupt' the established order (the social, material and legal fabric of the world) because the timing and nature of the change is mysterious, the relation between this innovation and other developments is unknown, and the eventual significance of any technological development can only be viewed retrospectively.

Here it is the arrival of a new and distinctive technology that is represented as the actual driver of social and legal change. It is the technology that instigates the legal response - where desired and deserved with award of a patent for the innovation, and where needed, in order to 'stabilise' the economy, following the 'disruption' caused by the new birth, with the development of new copyrights.

This is a deterministic model because it is the inanimate force - technology - that is taken to generate further action by others, which is in the form of a reaction. New technology is presented as an ill-fit with the current legal and economic landscape. Other capitalists exploit the new development and legal 'gap'. This threatens the anticipated profits of the 'original' innovator. Lawyers and Parliament respond to demands for protection, with a view to the perceived interests of their respective constituencies. In most cases new legal protections are drafted to create the 'new status quo'.

There is an attractiveness to technologically determinist or functionalist explanations of copyright because by focussing on an instance of change to which law responds, the legal domain is able to be related to innovation, but conceived of as separate and with distinctive, narrower concerns. Law need not necessarily understand a technology or critically address its significance in society, in order to have purpose. It just responds to the (predetermined) 'destabilisation' problem.

Nonetheless there are many limitations with this kind of cause and effect, technologically determinist representation of the innovation/law/economy nexus. These include:

- Problems of accuracy in nominating the relevant innovation, commodities and identifying the rightful inventor;
- Significant gaps between the invention of some reproductive technologies and the eventual 'related' copyright reform;
- Ignoring significant differences in the copyrights awarded;
- Ignoring the significance of corporatisation and collectivisation of rights.

The real limitations in reading the history of copyright in terms of innovation as causing 'disorder', and law as re-establishing 'order', becomes clearer in the context of reviewing some specific examples. Fleshing out these problems leads to more fundamental jurisprudential and political questions arising about the creation of an orderly copyright law.

There are always questions about selecting examples from a potentially huge range of innovations. Indeed I doubt a complete Innovation and Expansion of Copyright Subject Matter and Rights Table could ever be determined. The examples chosen below primarily stem from the mid-late 19th century and early 20th centuries. This is because it was in this period that copyright was coming to be understood as having distinct legal subject matter. It was this realisation that led to the systematisation of earlier piecemeal legislation, culminating in a more homogenous treatment and more broadly similar rights, as reflected in the Berne Convention of 1886 and revisions of 1908, the *Copyright Act* 1909 (US), and the *Copyright Act* 1911 (UK).

Some Examples

- *Problems of accuracy in nominating the relevant innovation, commodities and identifying the rightful inventor.*



*It began with Marconi
the "father of radio"!*
US Marconi Museum²

The invention of wireless telegraphy is commonly attributed to the "father of radio", Guglielmo Marconi. He had numerous patents over aspects of radio communications, filed in the UK and US. However in a case concerning the infringement of Marconi Company patents³ the US Supreme Court noted, "Long before Marconi's application for this patent the scientific principles of which he made use were well understood and the particular appliances

² The Museum is run by The Guglielmo Marconi Foundation, U.S.A., Inc. 18 North Amherst Road, Bedford, NH 03110. See <http://www.marconi-usa.org/>

³ The litigation involved the Marconi Company suing for infringement of four patents. The judgment below focuses primarily on the Marconi patent No. 763,772, filed in 1900, which was for improvements in apparatus for wireless telegraphy by means of Hertzian oscillations or electrical waves.

constituting elements in the apparatus combination which he claimed were well known”.⁴ In invalidating claims in Marconi’s patent 763,772, the court noted, “Commercial success achieved by the latter inventor and patentee cannot save his patent from the defense of anticipation by a prior inventor.”⁵

Claims in Marconi’s patent were invalidated by earlier filings by Oliver Lodge, John Stone and Nikola Tesla. The Russian inventor, Alexander Popov, had also demonstrated a reliable generator of electromagnetic waves in 1894, but his work is often marginalized in the English language accounts. There are many other close contenders for the award of ‘inventor status’ to makers of very similar technologies and to refinements of the technology across the globe at that time.

Whilst there is usually a cluster of innovative activity surrounding new technologies, the fashion remains of crediting “the father” of a new technology.

Perhaps the drive to identify the father of the technology relates to the way we are used to constructing a narrative, and scientific narratives in particular. As George Eliot observes:

Men can do nothing without the make believe of a beginning. Even Science, the strict measurer, is obliged to start with a make-believe unit, and must fix on a point in the star’s unceasing journey when the sidereal clock shall pretend time is at Nought. His less accurate grandmother Poetry has always been understood to start in the middle, but on reflection it appears that her proceeding is not very different from his: his Science, too, reckons backwards as well as forwards, divides his unit into billions, and with his clock-finger at Nought really sets off in *medias res*...⁶

The legal requirements of patentability - the first to file system and identification of *the* inventor reinforces the significance of an origination point, however arguably this is purpose driven - to permit the measurement of novelty and inventive step. But it should be noted that there is no neat fit between any invention as legally described in a patent specification, and the innovation that is later referred to in copyright discussions and as a product in the marketplace. More generally, over-emphasis on the significance of the individual invention/inventor has been attributed to it being methodologically easier to isolate than the other factors,⁷ gendered assumptions about the

⁴ *Marconi Wireless Telegraph Corporation of America v. United States*, 320 US 1 (1943), 10.

⁵ *Ibid.*, 35.

⁶ George Eliot, Epigraph to Chapter One, Daniel Deronda quoted in J. Snyder, “Book Review: Geoffrey Batchen, *Burning with Desire: The Conception of Photography*” (1999) *Art Bulletin* 81(3) 540.

⁷ J. Warner, “What should we understand by information technology (and some hints at other issues)?,” *ASLIB Proceedings* 52(9) Oct 2000, 359.

nature of science and invention,⁸ and cultural assumptions about genius and creativity.⁹

The over-determination of the significance of an inventor/invention leads to obscuring the co-operative and competitive dynamics that underpin the various dimensions to successful innovation. These include the conditions and relations that led to:

- conceptualisation of the technology;
- making technically feasible inventions;
- developing commercially feasible products; and
- successfully diffusing the technology.¹⁰

However our interest here is not with issues of credit and the significance of respective contributions to successful innovation. Whatever patent's reasons for discounting these factors, inordinate emphasis on the arrival of an innovation has significant ramifications for copyright.

The problem comes with the way copyright is constructed in servicing the larger innovation process. A compact identification of the birth of innovation, linking it with the arrival of a new technology, allows for copyright to be constructed as merely an intermediate stage of a related process. Copyright comes to be seen as a body of law designed to manage the disruptive after-effects or consequences of the original innovation. It is justified as a management tool, to optimise the economic climate for the successful dissemination of the new technology. New copyright laws police the unrestrained copying of commodities that undermine the profits (for some) that were anticipated from the new form of manufacture/service, and perhaps imperil investment in its further dissemination. Copyright is also asked to protect the new 'conduits' for the dissemination of innovation. These two related but distinctive rationales can lead to differentiations in the nature and quality of copyright awarded to original works (literary, dramatic, musical and artistic works), and to the other subject matter (sound recordings, broadcasts, film etc).

By characterising copyright as law 'reacting to' innovation and 'stabilizing' economic relations, the need for copyright to carry its own internal justification and clearer reference to the interest of the public or social body, is lessened. Further that there are a diversity of justificatory theories for copyright,¹¹ many

⁸ J. Duran, *Philosophies of Science: Feminist Theories* (Boulder, CO: Westview Press, 1997); D. Haraway, *Modest-Witness, Second-Millennium: Femaleman Meets Oncomouse: Feminism and Technoscience* (New York, London: Routledge, 1997).

⁹ M. Biagioli and P. Galison (eds), *Scientific Authorship. Credit and Intellectual Property in Science* (New York, London: Routledge, 2003).

¹⁰ These factors are derived from Schumpeter, as discussed by J. Warner, *supra* n.7.

¹¹ See for example, L. Becker (1992-3) "Deserving to Own Intellectual Property" 68 *Chicago Kent Law Review* 609; S. Breyer "The Uneasy Case for Copyright: A Study of Copyright in Books, Photocopies and Computer Programs" (1970) 84 *Harvard Law Review* 281; P. Drahos, *A Philosophy of Intellectual Property* (Dartmouth: Ashgate, 1996); J. Ginsburg "A Tale of Two Copyrights: Literary Property in Revolutionary

of which point to the law's indeterminacy and to norms and ideals that are difficult to evidence in judicial practice, poses fewer problems for the authority and legitimacy of the law. The primary justification for copyright becomes functionary - serving dynamics of innovation that operate abstractly and far beyond copyright's own domain, and, implicitly, also beyond copyright's control. Accordingly to the extent that they are noticed at all, copyright specifics and inconsistencies in treatment can also be explained in terms of particular 'industry demands', 'pragmatics' and other instrumental rationalisations, that do not disrupt the apparent logic and order to an innovation driven system of rights.

From this perspective law is primarily credited with agency in relation to *protecting* technological value, but not in relation to the *creation* of value(s). Further copyright's preoccupation with economic values is naturalized and under-theorised. Discrimination in valuing and attributing the significant contribution of labour, and the justification for differential rewards, status and property entitlements amongst collaborators in the production, can also be explained as 'consequential' and symptomatic of a process that requires demand for and negotiation of rights from the legislature.

Ultimately there is nothing much more to the presentation of law here than a text that documents demands made and deals done, with both industry and Parliament servicing the God of innovation.

Problems with this picture include the oversimplification of the relations between inventors, industry and Government, and the presumption that the public and other innovators are supportive of the award of IP rights.

- *Attributing industrial significance to the award of patents.*

France and America" (1990) 64 *Tulane Law Review* 991; W. Gordon "An Inquiry into the Merits of Copyright: The Challenges of Consistency, Consent and Encouragement Theory" (1989) 41 *Stanford Law Review* 1343; E. Hettinger "Justifying Intellectual Property" (1989) *Philosophy and Public Affairs* 18(1) 31; J. Hughes "The Philosophy of Intellectual Property" 77 *The Georgetown Law Journal* (1988) 287; B. Tyerman "The Economic Rationale for Copyright Protection for Published Books: A Reply to Professor Breyer" (1971) 18 *UCLA Law Review* 1100; A. Yen "Restoring the Natural Law: Copyright as Labor and Possession" (1990) 51 *Ohio State Law Journal* 517.



Fox Talbot,
Photogenic drawing of a fern leaf
c.1835-40



Daguerre
L'Atelier de l'artiste,
c.1837

The French Government acquired Daguerre's patent for photography in 1839 announcing that the invention was a gift "Free to the World" (with the inventor compensated with a life long pension). Daguerre then deposed his patent in the UK. Many historians speculate this move was related to national rivalries, the claimed superiority of daguerrotypes to similar British developments seeking patents in the UK, and the contested claim of Englishman Fox Talbot's that he, (without the same State support) had first invented "photogenic drawing". Talbot actually used a different technique to Daguerre involving the separation of the taking of the photograph from the production of a negative, for which he was awarded his own patent in England and Wales. The conflict between Daguerre and Talbot is an example of a 19th century 'format' war, here brokered by Government rather than by multi-national corporations. It was Talbot's technique that developed into the photographic processes we recognize today, but some of his many patents were overturned.¹²

Publications of the time, and histories of photography, often display antagonism towards patents in general (which was itself common in the mid 19th century in the UK) and toward Talbot in particular:

Talbot's process in general never reached the popularity of the daguerreotype process, partly because the latter produced such amazing detail, but partly because Talbot asked so much for the rights to use his process. A writer of the time, Henry Snelling, commented: "He is a man of some wealth, I believe, but he demands so high a price for a single right.... that none can be found who have the temerity to purchase." Consequently calotypes never flourished as they might have, and the fault must lie largely with him.¹³

¹² For an overview of Talbot's patents see L. Schaaf (ed) *Records of the Dawn of Photography: Talbot's Notebooks P & Q* (Cambridge: Cambridge UP, 1996).

¹³ See Robert Leggat, *A History of Photography* at <http://www.rleggat.com/photohistory/>

Both Daguerre and Talbot's UK patents are often attributed to retarding the development of photography.¹⁴

Whatever invention/inventor one attaches the most significance to, the example of photography suggests that the technical achievement should be considered in light of State objectives in the award of property rights, and attitudes toward patenting. These impact on the financial and popular success of the invention, the reputation of the inventor and commercialization prospects. In other words, the State may be an active contributor to the context for understanding the innovation and should not be assumed to be neutral in response to the emerging 'industry' and accordingly, to the commodity and cultural potential of the technical development. The public, as (potential) consumers of the innovation and associated intellectual property rights, need to be understood as engaged in this politics. They are not necessarily disinterested, passive or without choice in terms of how they react to the innovation, its rights and dissemination.

In the 19th and early 20th century copyright displayed significant confusion over the correct terms for inclusion of photography within its categories.¹⁵ As a jurisprudential issue indecision concerned who was the author of a photograph. Was it the sun? The director of the shot? The photographer? The producer of the plates and copies? Or the subject? Related to this was the question whether the photographic studio or the sitter should own the copyright. However copyright's problem here reflected the far broader political, scientific and consumer concerns about the merit, costs and appropriateness of private property rights in relation to photographic science and technology more broadly.

- *Significant gaps between the invention of some reproductive technologies and the eventual "related" copyright reform.*

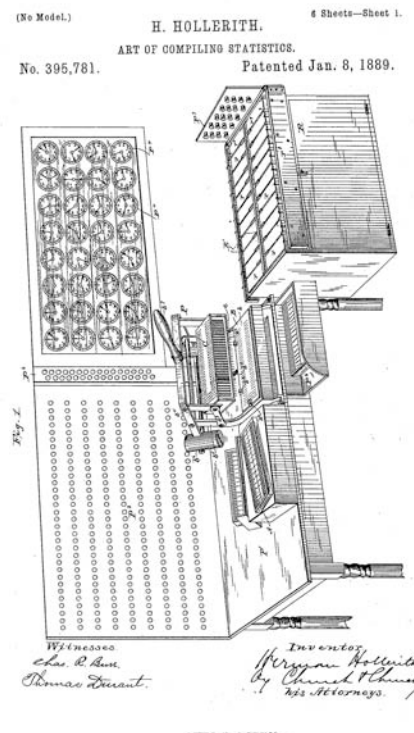
The Jacquard loom mechanised weaving in 1801 by using holes punched in pasteboard punch cards to control the weaving of patterns in fabric. The machine was strongly opposed by silk weavers who feared unemployment, but such were the advantages of the technology that in 1806 the French Government rewarded Jacquard with a State pension and royalties on machines sold.¹⁶

¹⁴ For the view that patents retarded photography see H. Gernsheim, *The history of photography from the camera obscura to the beginning of the modern era* (London, Thames & Hudson, 1969). For a contrary view see H. Arnold, *William Henry Fox Talbot : pioneer of photography and man of science* (London: Hutchison, 1977).

¹⁵ See B. Edelman *Ownership of the Image. Elements for a Marxist Theory of Law* translated by E. Kingdom, (London: Routledge, 1979). See also K. Bowrey, "Copyright, photography & computer works - the fiction of an original expression" (1995) 18 (2) UNSWLJ 278.

¹⁶ J. Essinger, *Jacquard's web : how a hand-loom led to the birth of the information age* (Oxford: Oxford UP, 2004).

Several decades later the Analytic Engine was invented by Charles Babbage. This was also designed to use cards to store programs. In turn these technologies led to Herman Hollerith's invention of data punch cards.¹⁷ In patent terms, Hollerith's invention was described in the specification as a component of "the method, system, and apparatus for compiling statistics".



Hollerith's 1889 Patent for the Art of Compiling Statistics

Hollerith's machinery was not simply the product of a fertile mind. He was encouraged to devise the technology in response to a US Government competition. The justification for the competition was to sponsor the development of technology required in a modern society to facilitate efficient governance.¹⁸ Machinery was required to modernise the census collection process.

The commercial potential of the invention was quickly identified by the precursor to IBM, the Computing-Tabulating-Recording Company (CTR). CTR bought out Hollerith's company in 1896. However while the commercial value in systematising business processes was clearly identified early on, it is significant that the commodity recognised was the supply of the tabulating machines (incorporating the service of tailoring the 'hardware' for the client).

¹⁷ P. Kidwell & P. Ceruzzi, *Landmarks in digital computing : a Smithsonian pictorial history* (Washington: Smithsonian Institution Press, 1994). See also L. Manovich, "New Media: A User's Guide" (2001) *Sarai Reader 0.1: The Public Domain*, 100.

¹⁸ As is still supported today, for example by competitive grants, research funding, taxation and investment policy etc.

In the 1910s CTR was based in New York City. It had 1,300 employees and offices and plants in Endicott and Binghamton, New York; Dayton, Ohio; Detroit, Michigan; Washington, D.C.; and Toronto, Ontario. When IBM was formed in the 1920s the corporation had three manufacturing facilities in Europe.¹⁹

Why was the commodity that was immediately recognised that of ‘hardware’, and not that of the business systems or ‘software’? Is it because ‘industry’ was primarily valued in terms of manufacturing plant and goods, and not as intangible property assets and information services? Or does it relate to the legal perception that the output was based on ideas - systems, and mathematics and algorithms, and therefore ineligible for protection as literary subject matter?

In *Baker v. Selden* (1879)²⁰ the court differentiated the public domain idea of a “system” of book keeping from the expression of literary works in which copyright could subsist. But in the UK there were a number of cases in the late 19th and early 20th century that had recognised literary works embodied in ciphers and telegraphic code.²¹ These cases involved lists of fictional words that could be pronounced easily, with each word having assigned a different combination of five numerals from 0-9. The use of these codes in transmission assisted in minimising mistakes in placements of dots and dashes. The International Telecommunications Union had attempted to establish industry standards, including directories of permitted words for telegraphy, but these endeavours failed. Issues they confronted included the desire of businesses to maintain flexibility in the choices available for coding transmissions, and for secrecy.²² By the late 19th century there were numerous codes in circulation that had been developed by various parties to suit their particular needs.

In *Ager v Collingridge* (1886) the defendant had used many of the words listed in Ager’s “The Standard Telegram Code”, but assigned their own meanings and numbers to the terms, making them suitable to facilitate transmissions

¹⁹ IBM Archives, “History of IBM”, at <http://www-03.ibm.com/ibm/history/index.html>

²⁰ 101 US 99 (Mem), 11 Otto 99, 25 L.Ed. 841.

²¹ *Ager v Peninsula* (1884) 26 CH. D. 637; *Ager v Collingridge* (1886) 2 TLR 291 (Ch. D); *Anderson v Liber* [1917] 2 KB 469. Interestingly, *Anderson v Liber* noted that the 1911 Copyright Act’s (UK) new requirement of an “Original” literary work was no bar to protection, and hence any form of notation of a work was sufficient. That writing need not be in any “ordinary language” was formally incorporated into the 1956 Copyright Act (UK) and 1968 Copyright Act (Cth) with definitions of “writing” including any form of notation, whether by hand or by printing, typewriting or any similar process. See also J. Warner, “Writing and Literary Work in Copyright: A Binational and Historical Analysis” (1993) 44(6) *Journal of the American Society for Information Science* 307-321.

²² See T. Standage, *The Victorian Internet* (London: Weidenfeld & Nicolson, 1998), 107ff.

pertaining to the timber trade. “Shadbolt’s telegraph code” was then privately circulated amongst their offices and forwarded to select clients.

Copyright was found in the subject matter of Ager’s ciphers and codes on the basis of the cost of the labour that was utilised in the making of the compilation comprised in the Standard code. It was found to be an infringement to make Shadbolt’s code, assisted by the Standard code, because “to permit such a use .. would destroy the sale of a work upon which he had expended infinite time and trouble, which he had entered at Stationer’s Hall”.²³ This is a clear statement of the role of law in ‘saving’ the potential profit to be had from the commodity, or in other words, of copyright turning code into commodity.

But if ciphers and codes can be copyrighted, why not Hollerith’s systems, expressed in the data punch cards? Is there a fundamental difference between the art of compiling statistics (expressed as perforations in punch cards causing an apparatus to function) and the art of compiling ciphers and code (expressed in sequences of numerals translated into dots and dashes)?

In *Anderson v Leiber* [1917] the court *rejected* the argument that “the words are not words in the ordinary sense at all, but are merely collections of letters which are in themselves meaningless and are made up in a mechanical way”, because,

The words - I call them so for want of a better name - are for use for telegraphic purposes, and to each of them a meaning can be attached by the person sending the message and also by the addressee, provided, of course, he is informed of the meaning attached to it by the sender.²⁴

If it is sufficient for ‘meaning’ to be conveyed only at point of origin and arrival, why is computational code not also understood as meaningful to the data operator and end user?

Nineteenth century views of technology were generally mechanistic with technology seen as involving the manipulation of matter and forces, *acted upon* by labour. Information technology was understood in terms of the discovery of mathematical properties, rather than being about the creation of such properties. We have a different semiotics of invention today, that some attribute to Marx and his focus on the human construction of the conditions of production.²⁵

²³ *Ager v Collingridge* (1886) 2 TLR 291 (Ch. D) at 292.

²⁴ *Anderson v Liber* [1917] 2 KB 469 at 471.

²⁵ From Grundrisse:

“Nature builds no machines, no locomotives, railways, electric telegraphs, self-acting mules etc. These are products of human industry; natural material transformed into organs of the human will over nature, or of human participation in nature. They are *organs of the human brain, created by the human hand*; the power of knowledge objectified. The development of fixed social capital indicates to what degree general social knowledge has become a *direct force of production*, and to what degree,

It is likely that IBM did not, at first, understand their technology and commodity as 'meaningful information' in the relevant sense, because of limited recognition of information technology as a *human construction* at the time of invention. Telegrams, by comparison, were always understood as a personal form of communication - a useful, mechanical facilitation of interpersonal dialogue across distances.²⁶ Thus cipher and code creator, Ager, could tap into an existing frame of reference that assisted in translating his invention into already known and valued social relations, seeding the founding of (seemingly uncontroversial)²⁷ new economic claims for copyright protection. The similar transition of information technology (computing) to commodity protected by copyright was far more troubled and contested.

While the award of a patent to business systems, and of copyright to computer programs, remains controversial today, the rise of a copyright claim is multi-factorial. There is no clear *arrival* of a new technology, complete with a clear frame of reference for understanding the particular class of invention's economic and legal value and potential. With the development of information technologies, there were significant gaps between the invention of the Jacquard loom, Hollerith's machinery and the eventual 'related' copyright reform. This should remind us that all technology sits within shifting contexts related to the (re)development of legal, economic and cultural concepts. What passes as 'stability' in interpretation of a technology and its economic potential is simply a stage where there is a semblance of continuity between social expectation and economic demand, where law affirms and consolidates a dominant meaning, (and in the process suppresses alternative readings and demands).

An emphasis on the disruptive 'effects' of a new technology avoids all reference to the contingent factors that 'obstruct' the emergence of copyright claims. In the process law is able to evade inquiry into the role it plays in informing the social relations of production. Further through omission, the failure of law to act and protect some innovation appears as 'exceptional' - an oddity - rather than as evidence that belies the generalisation that copyright 'needs' to act quickly, lest the innovation be lost.

- *Ignoring significant differences in the copyrights awarded*

Textile printing utilised engravings sourced from books as 'inspiration' for designs (amongst numerous other sources). Compare for example the

hence, the conditions of the process of social life itself have come under control of the general intellect and been transformed in accordance with it. To what degree the powers of social production have been produced, not only in the form of knowledge, but also as immediate organs of social practice, of the real life process." Warner, above n.7 at 353.

²⁶ See Standage, supra n.22.

²⁷ There is a reference to a pending appeal in *Ager v Collingridge* (1886), and for that reason Kay J stayed the order to deliver up the infringing copies.

similarity in the imagery below:



Engravings: A New Book of Birds
Publisher, Robert Sayer London, 1765

Plate printed fabric: Peacock and Hen
Talwin & Foster, 1765-75²⁸

Textile printing also used engraving techniques in the printing process. The textile industry practice thus had close links with the book printing trade, and thereby an association with literary property and engraver's copyright.

The *Statute of Anne* (1709) and the *Engraver's Act* (1734) are generally considered as the model of protection for the 'first' textile copyright Act - the *Calico Printer's Act* (1787). Indeed the petition for textile copyright specifically requested a form of a copyright,

in the same manner as the laws now in being have preserved the properties of authors of books . . . and the inventors and engravers of historical and other prints.²⁹

A superficial reading of this demand to Parliament suggests that copyright protection started with the printing press, which impacted on the book trade, leading to literary property. Printing techniques also utilised engraved images, hence engraver's copyright. The story goes that the legal reasoning from these particular causes was generalised to other industries, particularly where they used similar or analogous reproductive technologies.

However notwithstanding similarities in reproductive technique, there were

²⁸ Florence Montgomery, *Printed Textiles: English and American Cottons and Linens 1700-1850* (London: Thames & Hudson, 1970). Figure 221. A New Book of Birds, p236; Figure 219. Peacock and Hen, 234.

²⁹ as quoted in Lahore J "Art and Function in the Law of Copyright and Designs" (1971-72) 4 *Adelaide Law Review* 182, 185.

major differences in terms of:

- who was entitled to the copyright originally awarded,
- in what kind of protection was desired, and
- in what was actually awarded to the copyright owner.³⁰

With engraving there were disputes about whether the skill involved warranted protection at all. Engravers, unless they were also noted artists like Hogarth, struggled to be recognised as more than ordinary labourers. This is well summed up in the objection to engravers joining the French Academy of Arts. It was claimed,

If engravers have to be admitted to the Institute, then locksmiths will have to be admitted as well.³¹

Interestingly, the comparatively lowly status of the engraver was, at least for some, considered 'higher' than that of photographer,

photography is incapable of correcting the faults of a picture, bad drawing, want of keeping. etc., but copies all the *vicious* with the *good*.³²

A comparatively lowly status in the arts was not an obstacle to copyright protection. However because the labour involved was not automatically credited as 'art', being primarily characterised as artisanal and closer to 'craft', this raised questions about the measure of protection the textile industry required.

There are difficulties in interpreting the copyright demands of the textile industry per se. Arguably the 'first' laws that prevented the copying of designs on textiles were sumptuary laws³³ designed to protect the weaving industry threatened by the emerging trade in cheaper cottons, muslins and linens.³⁴ The concern was not just for protection from competition and of unemployment, but for the loss of social distinction and the interest of wealthier consumers in purchasing woven fabrics, silks and brocades, once the same designs were copied on cheaper cloths and worn by social

³⁰ The following discussion is based on K. Bowrey, "Who's painting copyright's history?" in D. McClean & K. Schubert (eds), *Dear Images, Art, Copyright & Culture* (London: Ridinghouse, Institute of Contemporary Arts, 2002) 256 and K. Bowrey, "Art, Craft, Good Taste And Manufacturing : The Development Of Intellectual Property Laws" (1997) 15(1) *Law in Context* 78.

³¹ quoted in G. Fyfe, "Art and Reproduction. Some aspects of the relations between painters and engravers in London 1760-1850" in J. Palmer & M. Dodson (eds), *Design and Aesthetics* (London, New York: Routledge 1996) at 197.

³² Engraver, George Doo, *ibid.*, 201.

³³ These are laws that regulate social identity and conspicuous forms of consumption most notably through rules concerning dress and public display. See Alan Hunt, *Governance of the consuming passions* (New York: St Martin's Press, 1996).

³⁴ *An Act to preserve and encourage the Woollen and Silk Manufacture of this Kingdom; and for more effectual employing the Poor by prohibiting the Use and Wear of all printed, painted, stained or dyed calicoes, in Apparel, Houshold-Stuff, Furniture or Otherwise* 1721. In the same term Parliament enacted further protectionist legislation, including *An Act for employing the Manufacturers and incouraging the consumption of Raw Silk and Mohair, by prohibiting the Wearing of Buttons and Button Holes made of cloth, serge or other stuffs* 1721.

inferiors.³⁵

The protection awarded under the 1787 Textiles Act was only for two months from first publication, and later extended to a maximum of three months.³⁶ This compares very unfavourably with copyright protection for books under the *Statute of Anne* 1709 (protection for 14 years, and a further 14 years if the author still lived) and for engraving under the *Engraver's Act* 1734 (14 years from the date of the print). Textile copyright was revised and replaced in the mid-19th century. But the policy remained one that mixed social and economic objectives.

The notion that copyright is required to combat piracy is complicated by this example. With textiles, the norms defining an act of piracy did not prohibit copying per se. As one fabric merchant explained to an 1840's *Select Committee on Copyright of Designs*,

I consider that copying is detrimental in this way, that except the higher class of printers, who give a tone to the print trade generally, derive a remunerative price for their goods, the general taste of the country will be deteriorated; and in that way, I think, they are entitled to their protection; nothing more than that.³⁷

Thus copying is not wrong per se, and some forms of imitation are okay. The “higher class” printers lead the direction of the market, hence they may require some protection. But it is short term and weak protection, in order to allow for swathes of mass market ‘imitations’ to follow. High class products are thus protected only so that they can be quickly and respectfully copied in an orderly fashion. The high quality goods provide aesthetic leadership in the market, and in this sense it is impossible to separate the social and educative aims of these copyright laws, from the private property protection awarded. Combating piracy is imbricated with social lessons about orderly consumption practice, where markets are regulated by laws and norms instilling ‘appropriate’ consumer values and choices.

The eventual successor to textile copyright, the *Designs Act* 1842,³⁸ repealed all existing design laws, and protected “any new and original design whether such design be so applicable to the ornamenting of any article of manufacture, or of any substance, artificial or natural . . .”. It was the first generalised law to protect the appearance of the object, judged by reference to distinctiveness in the marketplace. However designs had to be registered and protection was for a term of nine months to three years, depending upon the class of goods. Since these times, in addition to the protection awarded to the “visual appearance” of objects, “flat designs” have moved in and out of

³⁵ See Bowrey (1997) supra n.30.

³⁶ *An Act for the Encouragement of the Arts of designing and printing Linens, Cottons, Calicoes, and Muslins, by vesting the Properties thereof in the Designers, Printers and Proprietors for a limited Time* 1787 27. Geo. III. c38; 34 Geo. III. c23.

³⁷ Mr R Barbour, *Select Committee on the Copyright of Designs* 1840: 8488.

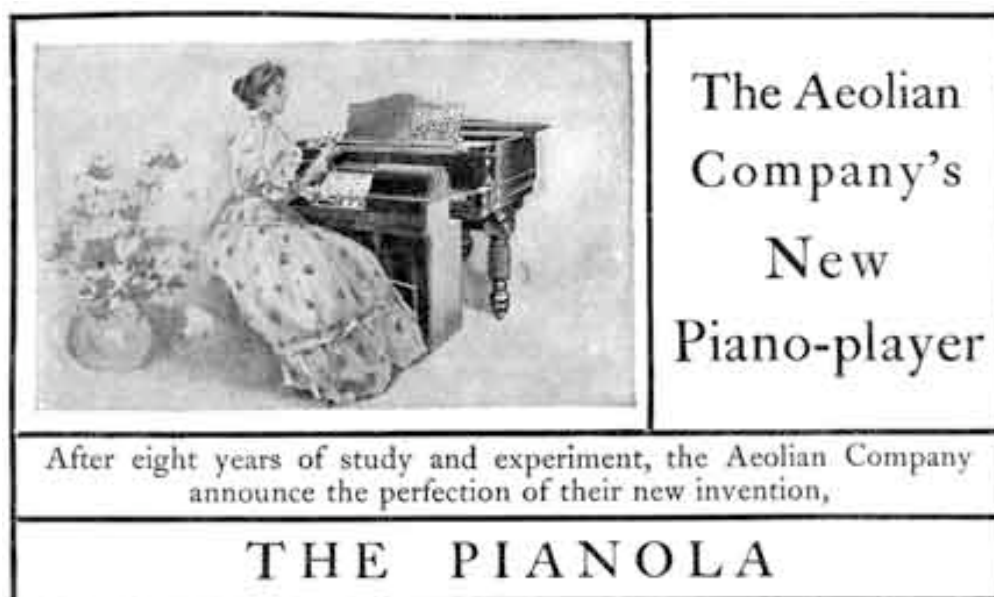
³⁸ 5 & 6 Vict. c100.

copyright's domain, with various terms of protection and overlapping with design registration.

This example leads to the question whether one can or should generalise about the development of copyright subject-matter across categories. While the literary model is cited as the model for other industries in political rhetoric, the protection awarded reflected the specificity of the lobbying, with regard to the particularities of the history of the industry, and of the market, as well as broader social politics. Here one of the management tools was to grow and shrink the category to include/exclude copyright protection to textiles on a regular basis.

The abstract idea that copyright subject matter 'expands' with related inventions, in order to stabilise commodity markets by reducing piracy, is really a gross misrepresentation of the political relations and social objectives of the laws. The most significant power exercised by copyright law is that of defining the commodity and its market, and in turn redefining the concept of piracy/legitimate use. The notion that law 'responds' to piracy, as if piracy is an eternal, universal and self-evident industrial concept, is wrong.

- *Ignoring the significance of corporatisation and collectivisation of rights*



From its origins with the Stationer's Company Charter of 1557 the exercise of copyright has been linked to the collective administration of rights. Guild forms were also associated with lobbying for extensions of rights early on. For example, in 1858, a Congress of Authors and Artists convened by Victor Hugo held its first meeting in Brussels in an effort to formulate a truly international basis for the universal protection of authors' rights. Unable to secure agreement on such a universal regime, the congress instead enunciated a doctrine of "national treatment". A generation later, in 1886, a series of

conferences held in Berne led to the signing by ten European nations of the first international copyright treaty.³⁹

However developments in relation to the music industry at the end of the 19th and early 20th centuries radically transformed the politics of copyright law reform. It was in this period that collecting societies were established.

Throughout the 18th and 19th century copyright expansion had been based on interest group negotiations with Parliament for protection of economic rights 'made vulnerable' by innovation, and on favourable judicial interpretation. Reform was piecemeal and fragmentary, primarily reflecting the social and industrial standing of the 'leading' individuals advocating the cause and their connections with Parliament, and familiarity with the social significance of the commodities produced. While there were similar developments in copyright across the European continent, throughout the respective Empires and former colonies, copyright reform was relatively localised and crafted with a view to national interest.

At the end of the 19th century a number of factors paved the way for a significant change in the way copyright would be administered. These included:

- recognition of doctrinal limitations of older laws,
- changes in the relations of the emerging 'entertainment industry',
- global plant, distribution, marketing and registration of rights,
- modernisation of intellectual property law statutes.

Judicial failure to expansively interpret earlier copyright legislation in relation to music to accommodate new reproductive technologies created a specific opportunity for reform.⁴⁰ In the UK *Boosey v Whight* (1899),⁴¹ and in the US *White-Smith Music Pub. Co. V. Apollo Co.* (1908),⁴² it was held that the musical works impressed on perforated rolls of paper were not 'copies' of musical works, and thus no copyright permission was required to produce such articles. Performance rights were not relevant to the copyright claims of infringement of the musical works.

In the UK the court considered the legislative intent of awarding copyright to musical works under s20 *Copyright Act* 1842 and determined it was designed

³⁹ C. Hesse, "The Rise of Intellectual Property," *Daedalus* (Spring 2002) Vol 6, 22.

⁴⁰ For an interesting account of the slow legislative development of music copyright, and its limited form in the 19th century see M. W. Carroll, "The Struggle for Music Copyright" (April 2005). *Villanova University Legal Working Paper Series*. *Villanova University School of Law Working Paper Series*. Working Paper 31.
<http://law.bepress.com/villanova/wps/papers/art31>

⁴¹ *Boosey v Whight* (1899) 1 Ch 836.

⁴² *White-Smith Music Pub. Co. v. Apollo Co.*, 209 U.S. 1 (1908).

to cover book publication of sheet music (only).⁴³ The mechanical recordings were not considered analogous to sheet music, there being no expert evidence brought of the ability to 'read' such works in the same way as sheet music is read. Thus the pianola version of the work did not appeal to the eye as sheet music could, but only operated on the ear. With machinery being required to manifest the work so it could be heard, also led to concerns about the tangibility of the expression. The later US decision mirrored these jurisprudential sentiments, as well considering the failure of the 1886 Berne Convention to include mechanical reproduction.⁴⁴ In these decisions courts seem aware of problems with permitting 'appropriation' of the composer's labour by the production of pianola rolls and gramophone records and, in the US there is judicial reflection on the possible need for legislative attention to redress the problem.

It could be argued that judicial reluctance to extend copyright protection of musical works to prevent unauthorised reproduction on perforated musical rolls reflects a similar semiotics of machinery to that discussed in relation to Hollerith's data punch cards. However, to borrow from the telegraphic example, a music work is a much more socially familiar form of expression than the early computing devices. As with written forms of correspondence, with music rolls and gramophone recordings the maker and user of the facility can and does assign meaning to the work. Further if telegraphic operators were known to be able to 'read' morse code signals,⁴⁵ it is hard to see why those engaged with music rolls would likewise not be able to avail themselves of the skill of reading music rolls (as some computer programmers have learnt to read both source and object code). Though Stirling J believes "it is highly improbable that any one would ever go to the trouble of acquiring the art of reading the rolls",⁴⁶ neither the requirement of 'tangibility' nor of 'conveying meaning' are necessarily insurmountable obstacles here and a tenor of uncertainty in both judgements infers this.

There is more going on in these cases than just a problem of confronting outmoded legislation and associated 'doctrinal limitations'.

The second factor that facilitates change in the character of copyright law is more directly evident in the US decision. There is an awareness that the market relations of copyright - at least so far as they pertain to the music industry - now involves complex corporate negotiations, with the interested parties including composers, music publishers, manufacturers and distributors of various musical contraptions, and consumers:

⁴³ This was in line with the original judicial award of copyright to sheet music in *Bach v Longman* (1777) 2 Cowp. 623.

⁴⁴ One writer attributes this omission to protection of the Swiss industry of manufacturing music boxes, see M. Landau, "'Publication', Musical Compositions and the Copyright Act of 1909" (2000) 2 Vand. J. Ent. L & Prac. 29, 35.

⁴⁵ See Standage, *supra* n.22.

⁴⁶ *Boosey v Whight* (1899) 1 Ch 836 at 841.

The record discloses that in the year 1902 from seventy to seventy five thousand of such instruments were in use in the United States and that from one million to one million and a half of such perforated music rolls,... were made in this country in that year.

It is evident that the question involved in the use of such rolls is one of very considerable importance, involving *large property interests* and closely touching on the rights of composers and music publishers.⁴⁷

In the US the Music Publisher's Association had made contracts with the Aeolian company allowing the latter to have a monopoly in the music roll business, were the *White-Smith* case to succeed.⁴⁸ It is not just the capital accumulations and the size and control of the potential markets that is important to note here.

Corporations set up structures of organisation and institute distinct working practices to produce identifiable products, commodities and 'intellectual properties'.⁴⁹ By the late 19th century the intellectual properties managed by the entertainment industry engage much more than 'music' comprising copyright relations between creators, music (book) publishers and consumers. In the second half to the 19th century there was a boom in invention of all kinds of new entertainment devices, and managing intellectual property interests comes to encompass considerations of the corporation's own and other's patents, and the market penetration of the related 'platforms', as well as the status of one's existing copyright holdings.

Negotiations and deals done with other technology makers comes to define the emergent 'entertainment/culture' industry. And through those engagements the industry itself comes to affect our culture and our access to innovation, in a much more organized manner.

However despite their strategising and planning, industry players cannot simply determine the meaning or success of musical products. It has to be accepted that commodities may be used and appropriated in various ways, or simply ignored, by musicians and consumers. This creates uncertainty:

There can be no absolute symmetry between the 'moments' of design/production and consumption/use, and further, .. advertising stands in between the two instances - a separate moment of mediation, marketing, promotion, the construction of images and markets, the conditioning of public response... [It is] a delicately (un)balanced sequence of relationships.⁵⁰

Requests for further copyright reform may assist in managing these 'uncertainties'. It especially helps define markets when utilised in association with strategic accumulation of intellectual property rights of others (patents,

⁴⁷ *White-Smith Music Pub. Co. v. Apollo Co.*, 209 U.S. 1, 9 (1908). (My emphasis).

⁴⁸ See Landau, *supra* n43.

⁴⁹ K. Negus, "Culture, industry, genre: conditions of musical creativity" in his *Music Genres and Corporate Cultures* (London, New York: Routledge, 1999) 14-30.

⁵⁰ Dick Hebdige, "Objects as Image: The Italian Scooter Cycle", in M. Lee (ed) *The Consumer Society Reader* (Oxford, UK; Malden, Mass., USA: Blackwell, 2000), 128.

copyrights, designs and trade marks). Initiating litigation and other techniques to facilitate competitive positioning is also part of this scene.

In the early 20th century the simple notion that copyright protection is needed to 'save' the older commodity's potential in light of a new innovation starts to fail, because of the complexity of 'private' interests affected by rights. Extension of rights in musical works to cover all mechanical forms of reproduction would affect innumerable other kinds of 'innovators' and manufacturers of musical technologies. Notwithstanding that dilemma, the failure to offer protection and recognise new forms of copyright arising in recordings utilised in such mechanical devices also creates additional inequalities and new divides between new innovators and new 'pirates'.⁵¹

By the late 19th century the size, scale, character and corporate organisation of music consumption begins to impact on the simpler representation of copyright as concerning 'private rights' and 'market freedom'. Copyright rewards are not awarded just in response to *an* innovation that destabilises the 'status quo'. Award of rights also permits the copyright owner to broker demands from innumerable competing 'innovators'. Given the emergence of a complex and confusing matrix of interests, referring the matter of how to negotiate competing rights arising from innovation back to Parliament is more appropriate. The established jurisprudence, thinly based on reference to individual private property rights, and often explained in terms of a simple technological determinism, offers little guidance for managing such legal relations.

The desired new laws were still crafted in view of the national interest, however a third matter had begun to complicate this drafting. Provisions serving the national interest now needed to be aware of international trade implications. This is not only because of the internationalisation of rights claims, under the auspices of western authorship and associated 'author/artist' interest groups, such as those Victor Hugo was engaged with. Whilst late 19th and early 20th century classical composers were often specifically seeking to express their own national identity through their works, the marketing of popular music understood it had potential as an 'international language'. Hence corporations were both national and international in outlook. So, for example, in 1892 the UK based music publisher, Boosey & Company had established an office in New York.⁵² George Whight & Co were the UK distributor for the Aeolian Company in the 1880s and 1890s. By the early 1900s the Aeolian Company had

⁵¹ See for example, *Aeolian Co v Royal Music Roll Co*. 196 Fed. 926 (W.D.N.Y. 1912), where the court sanctions Royal Music for piracy of Aeolian's music rolls because "He cannot avail himself of the skill and labor of the original manufacturer of the perforated roll or record by copying or duplicating the same, but must resort to the copyrighted composition or sheet music....". Remedy was devised by recourse to equity. See Note, "Piracy on Records" (1953) 5. Stan. L. Rev. 433, 443.

⁵² M. Davies, "A Short History of Boosey & Hawkes Music Publishers Limited" at <http://www.maxopus.com/publish/boosey.htm>

manufacturing plant in New York, New Jersey, Connecticut, Massachusetts, Hayes, Gotha, and retailing outlets in Manhattan, Chicago, St Louis, London, Berlin, Madrid, Sydney and Melbourne.⁵³

Communications technologies such as the telegraph, and information technologies such as IBM's machinery, facilitated corporate expansion of the entertainment industries. These allowed for the management of greater distances between manufacturing and distribution plants. Mechanisation allowed for better efficiencies in management of a larger scale of production and supply. The ease of communication information flows about new innovations (especially after the successful deployment of reliable submarine cables), allowed for the development of strategies to capitalise on technical developments and information about competitors, nationally and internationally. Recognition of the need to maintain business secrets about corporate developments and new innovations yet to be released to the public (eg. through the use of secret codes in telegraphic transmission), is related to an emerging awareness of the value of business information in general. Confidential information is the broadest form of "intellectual property" associated with the dissemination of new product.

Notwithstanding the historical geographical demarcations of copyright, international agreements had developed that conferred reciprocal rights on foreign nationals, in recognition of interests of their nationals abroad. This is why the decision in the *White-Smith* case is cognisant of *Berne* requirements, even though the US was not a signatory to the 1886 Convention. In 1891 the USA concluded a bi-lateral treaty with Belgium, France, British possessions and Switzerland. Separate treaties with Germany and with Italy followed in 1892. These arrangements with Convention members meant that if the US court had found that mechanical recordings were a copy of a musical work, foreign citizens and composers (and associated corporations) would have advantages in the US denied to US citizens abroad. Justice Day explicitly refers to the need for a narrow reading of the legislation, because conferring privileges on foreigners could not have been intended by Congress.⁵⁴

A final factor that impacts on copyright law reform at this time is legal positivism and the broader need to 'modernise' the foundations of copyright law, through 'systematisation' of the earlier 'industry-specific' Acts. This task was in keeping with mid 19th century reform of all intellectual property laws, which had contributed to a clearer statutory demarcation of the domains of design, patent and trade mark law. These revisions in turn assisted in reconceptualising the domain and ambition of copyright law, allowing for a

⁵³ R. Lawson, "Towards a History of the Aeolian Company" (1998) *Pianola Journal*, No. 11, 26, 29.

⁵⁴ *White-Smith Music Pub. Co. v. Apollo Co.*, 209 U.S. 1, 15.

higher level of abstraction in explaining rights and related to that, increasing standardisation in treatment.⁵⁵

These factors all informed Parliamentary inquiries into copyright and associated law reform. As a sub-set of concern within new generalised modern copyright laws, mechanical recordings came to be recognised as a form of reproduction of musical works under the *Copyright Act* (1909) US, and under the *Copyright Act 1911* (UK). The *Berlin Convention* (1908) also added sound recordings to Berne, and the UK Act recognised these rights. Corresponding with these reforms new collecting societies were established in the UK and the US to administer the associated royalties. Further in the US compulsory licensing for adaptations of musical works also appeared as part of the trade off, the conventional explanation being that this was an 'anti-monopoly' policy devised to forward better protection to musical works but undermine the strategic negotiations with music publishers, put in place in anticipation of the new right, by the Aeolian Company.

As the examples above show, at this time attention was primarily directed to forming strategic alliances nationally and internationally amongst 'like' concerns and directly complimentary interests. However the skills involved in managing competitive developments and platforms, using copyright, confidential information, privacy tools and negotiating around patent threats⁵⁶ - by take-overs, investment, joint venture and so on - set firm foundations for the more advanced concentration of ownership and vertical integration in the entertainment industries. The early 20th century legal developments, in conjunction with State brokerage of broadcasting licenses and media ownership rules, that laid the foundation for the huge conglomerations that we now recognise as a hallmark of the media and entertainment industries.

The broader conceptualisation of rights and the rise of collective management heralded a significant change in the nature of copyright. These reforms *strengthened the right of the corporations with established copyrights* to 'manage uncertainty'. Both music publishers and manufacturers of music players entered into strategic industry alliances and mutual arrangements with owner organisations, media enterprises and new technology makers (with associated patent rights). This was to ensure competitive advantage over other innovators, and to grow international markets for their new commodities where interests could now be managed where applicable, across the globe.

In the early 20th century copyright was adjusting to this reality, and law reform selectively supported the expansion of markets and opportunities.

Rejecting Copyright Metanarratives

⁵⁵ See B. Sherman & L. Bently, *The Making of Modern Intellectual Property Law*, (Cambridge, New York: Cambridge UP, 1999).

⁵⁶ See for example the Aeolian Company's managements of patent rights in Lawson, *supra* n.53.

Historically speaking, it is only true in a very vague sense to say that copyright law responds to the 'disruption' caused by a new technology. It is quite misleading if this is taken to infer that the industries were otherwise 'stable' in markets and expectations. These short historical accounts of technological developments and legal response shows that the 'status quo' in the communications and the creative industries is a highly speculative notion. While combating piracy and/or managing free riding recurs in the many debates about copyright reform, the definition of the problem of piracy has shifted and changed in relation to the broader social and economic context. This in turn coloured the legislative response.

An analytic emphasis on new technologies as housing potential 'value' relies upon a "make believe" narrative about the origins of the technology and the significance of its maker and making. This fancy in turn feeds into fictions of alienated, private owners deserving 'exceptional' legal rights. The suggestion is of a world of vulnerable innovators and small enterprises. This leads us away from focussing on the reality of 20th century markets defined and controlled by international corporations many of whom were historically favoured over other innovators by Nation states and internationally.

As much as creation stories resonate in the popular imagination, the idealised view that copyright responds to the disruptive effects of a new innovation does not relate to the reality of late 19th and early 20th century, when modern copyright took shape. So why does this fantasy persist?

History suggests we should not pretend that there is any optimum copyright/technology/innovation nexus, or that there is any simple rationalisation for the award of 'private' property rights.