

**AHRC New Directions In Copyright Law Research Network
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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' legal reform. This paper explores the usefulness of both these concepts.

What is the connection between economic, social and legal value? In what sense does new technology create value(s)? Under what circumstances can law disrupt innovation or value? Is there anything distinctive about the current flurry of academic interest in the copyright/technology/innovation nexus?

These questions are viewed from various perspectives: the history of copyright, critiques of consumption, network theory and Lessig's *Free Culture* advocacy.

The History of Copyright and New Subject Matter

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

* This work was assisted by the Vice Chancellor's Fund for Women Researchers at UNSW.

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

The relation between “Innovation and Expansion of Copyright Subject Matter and Rights” is represented in Table #1. The table seeks to plot relevant facts and relations between innovation, patents, the development of related commodities and eventual copyright reform. It is a persuasive form of presentation because it suggests empirical evidence in support of the thesis that new technology disrupts the status quo, as seen in the quantifiable legal changes to copyright.

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 bodily 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

¹ Edward Samuels, “Thomas Jefferson Never Saw Anything like this”, in *The Illustrated Story of Copyright*, (St Martins, 2000) at 3-4.

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 address its significance in society, in order to have purpose.

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

In exploring some examples of these problems, the real limitations in reading the history of copyright in terms of innovation as "disorder", and law as establishing "order", becomes clearer. Fleshing out these problems leads to more fundamental jurisprudential and political questions about the creation of an orderly copyright law.

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 Museum
<http://www.marconiusa.org/>

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 patents² 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 constituting elements in the apparatus combination which he claimed were well known”.³ 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.”⁴

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. Over-emphasis on the significance of individual invention/inventor has been attributed to it being methodologically easier to isolate than the other factors,⁵ gendered assumptions about the nature of science and invention,⁶ and cultural assumptions about genius and creativity.⁷

Over-determination of the significance of the invention/inventor 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.⁸

² The litigation involved the Marconi Company suing for infringement of four patents. The judgment 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.

³ *Marconi Wireless Telegraph Corporation of America v. United States*, 320 US 1 (1943) at 10.

⁴ *Ibid*, at 35.

⁵ *Ibid*.

⁶ Jane Duran, *Philosophies of Science: Feminist Theories* (Westview Press, 1997); Donna Haraway, *Modest-Witness, Second-Millennium: Femaleman Meets Oncomouse: Feminism and Technoscience* (Routledge, 1997).

⁷ Mario Biagioli and Peter Galison (eds), *Scientific Authorship. Credit and Intellectual Property in Science*, (Routledge, 2003).

⁸ These factors are derived from Schumpeter, as discussed by Julian Warner, “What should we understand by information technology (and some hints at other issues)?,” *ASLIB Proceedings*, Vol 52(9) Oct 2000 at 359.

But our interest here is not with issues of credit and the significance of respective contributions to successful innovation. What does this problem of locating the origins of invention/patents have to do with 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 also protects 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,⁹ many 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 far beyond copyright's own domain, and, implicitly, also beyond copyright's control. Accordingly copyright specifics and inconsistencies in treatment can also be explained in terms of 'industry demands', 'pragmatics' and other instrumental rationalisations, the suggestion being that law has no other possible role to play.

⁹ See for example, Lawrence Becker (1992-3) "Deserving to Own Intellectual Property" 68 *Chicago Kent Law Review* 609; Stephen Breyer "The Uneasy Case for Copyright: A Study of Copyright in Books, Photocopies and Computer Programs" (1970) 84 *Harvard Law Review* 281; Peter Drahos, *A Philosophy of Intellectual Property*, (Dartmouth Publishing Co. 1996); Jane Ginsburg "A Tale of Two Copyrights: Literary Property in Revolutionary France and America", (1990) 64 *Tulane Law Review* 991; Wendy Gordon "An Inquiry into the Merits of Copyright: The Challenges of Consistency, Consent and Encouragement Theory" (1989) 41 *Stanford Law Review* 1343; Edward Hettinger "Justifying Intellectual Property" (1989) *Philosophy and Public Affairs* 18(1) 31; Justin Hughes "The Philosophy of Intellectual Property" 77 *The Georgetown Law Journal* (1988) 287; Barry 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.

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.

One of the problems with this picture is the simplicity of the presentation of the relations of industry and Government, and of the presumptive receptivity of the public to the predetermined social and economic relations.

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



*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.

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.¹⁰

Both Daguerre and Talbot's UK patents are often attributed to retarding the development of photography, with Talbot's patent leading to greater developments in Scottish photography (where Talbot had not sought a patent).¹¹

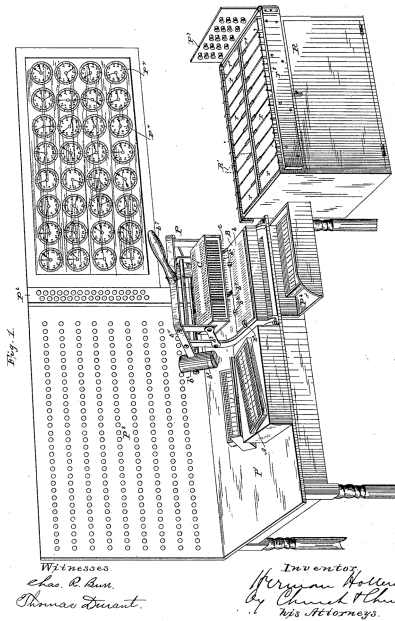
Whatever invention/inventor one attaches the most significance to, the example of photography suggests that the technical achievement should be considered in light of State objectives in the award of property rights, and attitudes toward patenting. These impact on the financial and popular success of the invention and the wealth and reputation of the inventor. In other words, the State is an active contributor to the context for understanding the innovation and should not be assumed to be neutral in how it responds to the emerging 'industry' and the commodity and cultural potential of the technical development. Further the public, as (potential) consumers of the innovation and associated intellectual property rights, needs 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.

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

¹⁰ See Robert Leggat, *A History of Photography* at <http://www.rleggat.com/photohistory/>

¹¹ *Ibid.*

(No Model.) H. HOLLERITH. 6 Sheets—Sheet 1.
ART OF COMPILING STATISTICS.
No. 395,781. Patented Jan. 8, 1889.



Hollerith's 1889 Patent for the Art of Compiling Statistics

Herman Hollerith's invention of data punch cards (inspired by the jacquard loom which mechanised weaving, and a Government competition to modernise the data collection process) was designed to facilitate US Census Collection. Included in a patent specification as a component of "the method, system, and apparatus for compiling statistics", the commercial potential of the invention was identified by the precursor to IBM, the Computing-Tabulating-Recording Company (CTR). CTR bought out Hollerith's company in 1896. While the commercial value in systematising business processes was clearly identified early on, the commodity recognised was the supply of the tabulating machines (incorporating the service of tailoring the 'hardware' for the client). 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.¹²

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

¹² IBM Archives, "History of IBM", at <http://www-03.ibm.com/ibm/history/index.html>

mathematics and algorithms, and therefore ineligible for protection as literary subject matter?

In *Baker v. Selden* (1879)¹³ 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.¹⁴ 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.¹⁵ 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 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”.¹⁶ 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

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

¹⁴ *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 Julian Warner, “Writing and Literary Work in Copyright: A Binational and Historical Analysis”, (1993) *Journal of the American Society for Information Science*, 44(6) 307-321.

¹⁵ See Tom Standage, *The Victorian Internet*, (Weidenfeld & Nicolson, 1998) at 107ff.

¹⁶ *Ager v Collingridge* (1886) 2 TLR 291 (Ch. D) at 292.

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.¹⁷

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.¹⁸

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.¹⁹ 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

¹⁷ *Anderson v Liber* [1917] 2 KB 469 at 471.

¹⁸ 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, 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, op cit n.5 at 353.

¹⁹ See Standage, op cit n.15.

(seemingly uncontroversial)²⁰ 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. Rather 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).

The technologically determinist approach to copyright's history 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, lest the innovation be lost.

- *Ignoring significant differences in the copyrights awarded*



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

Plate printed fabric: Peacock and Hen
Talwin & Foster, 1765-75²¹

²⁰ 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.

Textile printing utilised engravings sourced from books as ‘inspiration’ for designs (amongst numerous other sources). They 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. Hence 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”²²

The form of the 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.

Notwithstanding similarities in reproductive technique, there were however some 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.²³

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.²⁴

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

²¹ Florence Montgomery, *Printed Textiles: English and American Cottons and Linens 1700-1850*, (Thames & Hudson, 1970). Figure 221. A New Book of Birds, p236; Figure 219. Peacock and Hen, p234.

²² as quoted in Lahore J “Art and Function in the Law of Copyright and Designs” (1971-72) 4 *Adelaide Law Review* 182 at 185.

²³ The following discussion is based on K Bowrey, “Who’s painting copyright’s history?” in Daniel McClean & Karsten Schubert (eds), *Dear Images, Art, Copyright & Culture*, (Ridinghouse, Institute of Contemporary Arts, 2002) at 256-274 and K Bowrey, “Art, Craft, Good Taste And Manufacturing : The Development Of Intellectual Property Laws”, *Law in Context*, (1997) Vol 15(1) pp78-104.

²⁴ quoted in Gordon Fyfe, “Art and Reproduction. Some aspects of the relations between painters and engravers in London 1760-1850”, in Jerry Palmer & Mo Dodson (eds), *Design and Aesthetics*, (Routledge 1996) at 197.

drawing, want of keeping. etc., but copies all the *vicious* with the *good*.²⁵
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 laws²⁶ designed to protect the weaving industry threatened by the emerging trade in cheaper cottons, muslins and linens.²⁷ 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 able to be displayed by social inferiors.²⁸

The protection awarded under the 1787 Act was only for two months from first publication, and later extended to a maximum of three months.²⁹ 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. As one fabric merchant explained to a *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.³⁰

²⁵ Engraver, George Doo, *ibid* at 201.

²⁶ 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 consuming passions* (St Martin’s Press, 1996).

²⁷ *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 encouraging the consumption of Raw Silk and Mohair, by prohibiting the Wearing of Buttons and Button Holes made of cloth, serge or other stuffs* 1721.

²⁸ See K Bowrey (1997) *op cit* n.23.

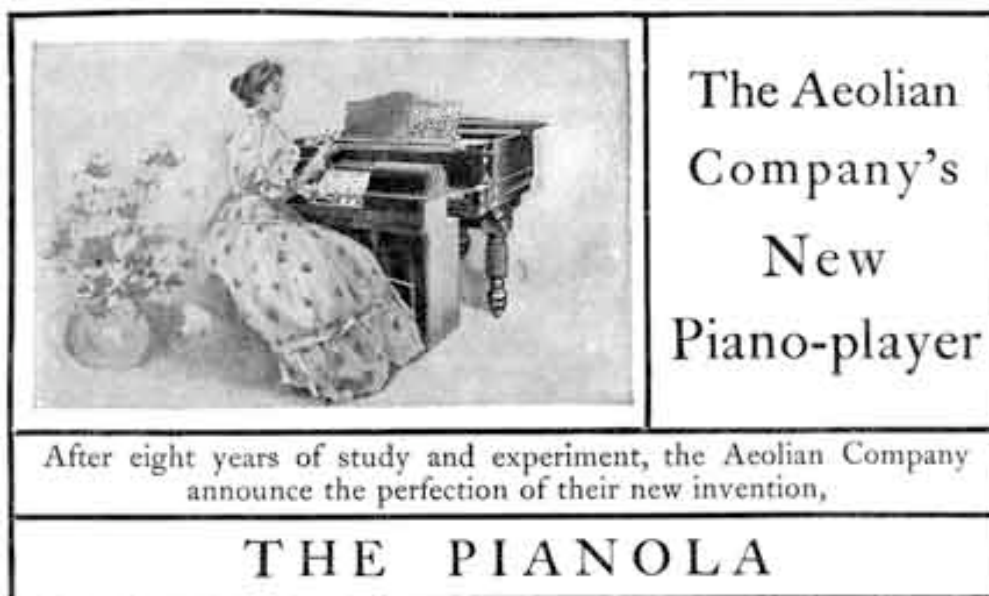
²⁹ *An Act for the Encouragement of the Arts of designing and printing Linens, Cottons, Calicoes, and Muslins, by vesting the Properties thereof in the Designers, Printers and Proprietors for a limited Time* 1787 27. Geo. III. c38; 34 Geo. III. c23.

³⁰ Mr R Barbour, *Select Committee on the Copyright of Designs*, 1840:8488.

The eventual successor to textile copyright, the *Designs Act 1842*,³¹ 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. 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 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. 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 practice of the law. 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

³¹ 5 & 6 Vict. c100.

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.³²

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 '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.³³ In the UK *Boosey v Whight* (1899),³⁴ and in the US *White-Smith Music Pub. Co. V. Apollo Co.* (1908),³⁵ 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.

³² Carla Hesse, "The Rise of Intellectual Property," *Daedalus*, (Spring 2002) 6 at 22.

³³ For an interesting account of the slow legislative development of music copyright, and its limited form in the 19th century see Michael 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>

³⁴ *Boosey v Whight* (1899) 1 Ch 836.

³⁵ *White-Smith Music Pub. Co. v. Apollo Co.*, 209 U.S. 1 (1908).

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 to cover book publication of sheet music (only).³⁶ 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. There being machinery 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.³⁷ 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,³⁸ 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",³⁹ 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

³⁶ This was in line with the original judicial award of copyright to sheet music in *Bach v Longman* (1777) 2 Cowp. 623.

³⁷ One writer attributes this omission to protection of the Swiss industry of manufacturing music boxes, see Michael Landau, "'Publication', Musical Compositions and the Copyright Act of 1909", (2000) 2 Vand. J. Ent. L & Prac. 29 at 35.

³⁸ See Standage, op cit n.15.

³⁹ *Boosey v Whight* (1899) 1 Ch 836 at 841.

industry - now involves complex corporate negotiations, with the interested parties including composers, music publishers, manufacturers and distributors of various musical contraptions, and consumers:

The record discloses that in the year 1902 from seventy to seventyfive 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.⁴⁰

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.⁴¹ 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'.⁴² 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 made with other technology makers come to define the emerging 'entertainment/culture' industry. And through those engagements the industry itself comes to affect culture and 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.

Requests for further copyright reform thus may assist in managing 'uncertainty', especially when in association with strategic accumulation of intellectual property rights (patents, copyrights, designs and trade marks), facilitating competitive positioning in relation to others.

However in this corporate economy, the simple notion that copyright protection is needed to 'save' the older commodity's potential in light of a new

⁴⁰ *White-Smith Music Pub. Co. v. Apollo Co.*, 209 U.S. 1, 9 (1908). (My emphasis).

⁴¹ See Landau, op cit n37.

⁴² Keith Negus, "Culture, industry, genre: conditions of musical creativity" in his *Music Genres and Corporate Cultures* (Routledge, 1999) 14-30.

innovation starts to fail, because of the complexity of 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’.⁴³

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’. 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 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 its 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.⁴⁴ By 1901 the Aeolian Company based in New York, had offices in London and Paris and from Paris supplied Germany and the rest of the continent.⁴⁵ 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, and the ease of communication information flows about new

⁴³ See for example, *Aeolian Co v Royal Music Roll Co*. 196 Fed. 926, 927 (W.D.N.Y. 1912), where the courts sanction Royal Music for piracy of Aeolian’s music rolls by means other than recognising copyright in mechanical recordings. See also Note, “Piracy on Records” (1953) 5. Stan. L. Rev. 433 at 443.

⁴⁴ Maxwell Davies, “A Short History of Boosey & Hawkes Music Publishers Limited” at <http://www.maxopus.com/publish/boosey.htm>

⁴⁵ Rex Lawson, “Towards a History of the Aeolian Company”, (1998) *Pianola Journal*, No. 11.

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.⁴⁶

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 higher level of abstraction in explaining rights and related to that, increasing standardisation in treatment.⁴⁷

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 *Berne 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-

⁴⁶ *White-Smith Music Pub. Co. v. Apollo Co.*, 209 U.S. 1, 15.

⁴⁷ See Brad Sherman & Lionel Bently, *The Making of Modern Intellectual Property Law*, (Cambridge UP, 1999).

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.

The broader conceptualisation of rights and the rise of collective copyright management heralds a significant change in the nature of copyright. These reforms strengthened the right of the corporations with established copyrights to 'manage uncertainty' by entering strategic industry alliances and mutual arrangements with other owner organisations, media enterprises and new technology makers (with associated patent rights). Interests can now be managed where applicable, across the globe. This allows for much greater influence in directing the entertainment industry's culture, and the culture of the industry. Whilst consumers still have to desire the marketed cultural product, the legal interest now moves away from justification for specific rights arising from innovations to focus more specifically on enforcement of newly drafted, broader established 'property' rights. Enforcement is also bureaucratised⁴⁸ with corporations and industry groups, under the auspices of collecting societies, able to take the lead in negotiating rights to revenues and enforcement directly. From now on in managing technological change, the protection of existing interests has a much stronger foundation in law. And innovators without harmonious connections with the established players, and especially where they have no useful patent rights to trade, can now much more readily be cast as 'free-riders', and 'pirates'.

The values in/of a history of technology informing copyright law

Where the focus is on the *emergence* of a new technology and the way it affects, and is affected by, existing legal rights leading to demands for associated law reform, it is easy to forget that corporations are continually engaged in managing innovation. Corporate activity is organised to enable:

- the prediction of new developments;
- production of more innovation and capitalising on new trends;
- keeping their own developments and strategies to manage them and other's innovation secret;
- choosing not to engage with other's innovation;
- buying or licensing associated intellectual property rights in relation to innovations of interest;
- entering into consortiums, joint ventures and industry agreements about the development and distribution of preferred future platforms and add-ons.

To characterise the corporate world as 'disrupted' by change is misleading, given that the bulk of daily corporate life is engaged with managing aspects of innovation - their own and others. Accordingly corporations should not usually be assumed as unknowing, friendless, or powerless. However a legal focus on the significance of the arrival of a technology in abstract allows one to

⁴⁸ Thomas Streeter, "Broadcast Copyright and the Bureaucratization of Property", (1992) 10 *Cardozo Arts & En. L. J.* 567.

forget the social and economic relations of commerce. This facilitates the presentation of the corporation as an 'victim', subject to 'crisis', unpredictable 'risks' and 'losses' as a consequence of innovation.

Corporate agreement about industry standards, such as the recent development of Blu-ray™ technology - large capacity optical discs utilizing blue-violet laser, and supported by 13 companies in Japan, Korea, Europe, US, is arguably much more important in terms of effecting changes in industry culture and access to innovation, than the legal changes to support electronic rights management information and encryption of data. Without collective agreement to support the same copy protection standards for example, the new legal provisions are relatively ineffectual.⁴⁹ Further industry standards do not necessarily need formal legal support from intellectual property laws at all.⁵⁰

In reading the history of copyright a fuller picture of the significance of technological innovation and the way the potential value (up and down) of any innovation is negotiated emerges, if the particular innovation is read in terms of the historical industry context. This involves considering the collective management of risk and control as part of the everyday regulatory tools

⁴⁹ There is a lot of secrecy concerning the encryption on Blu-Ray however, based on information contained in recent patent filings an LG website discloses: Both HD DVD and Blu-Ray formats use the Advanced Access Content System (AACS), in order to protect their data from unauthorized replication. However, Blu-Ray format adds protection called BD+ which adds encryption key renewability to AACS key revocation, and a third layer called ROM Mark. The Blu-Ray Disc Association says that the ROM Mark "guards against mass production piracy or the mass duplication and sale of unauthorised copies of pre-recorded media" and also confirms that a digital signature is buried in the recording which can identify whether an individual disc was pressed from an authorised glass master. It works by tracking the machine used to laser-cut a master disc. While theoretically the copies are the same, the motor that spins the blank disc and moves the laser along a spiral track varies slightly in speed and precision. So if a digital marker is put in the middle of a recording, e.g. after exactly 60 minutes, its physical position on the master disc - every disc then pressed - carries a unique fingerprint of the cutting machine. There is also digital code on the disc which describes where the marker should be for the machine that created the master disc, for instance 25% round the thousandth turn of the spiral track. This assists in tracking piracy. Customs will have access to a modified player that checks the described position with the actual position. If they match, the disc is genuine. If they don't, the disc is a fake pressing. The LG website concludes: "To beat the system, pirates would have to reverse engineer the entire marker description and check process - which they are unlikely to have the time, expertise or money to do." See "Blu-Ray disc marking system explained" at <http://www.lge.com/products/supermulti/tips/tipview.jsp?id=10004>

⁵⁰ Indeed whether assertion of IP rights in relation to a technology should preclude consideration of its inclusion in an industry standard is a controversial matter. See Kathy Bowrey, *Law & Internet Cultures*, (Cambridge UP, 2005) at 73ff.

corporations have at their disposal, in conjunction with intellectual property laws. This is different to recognising the ability of corporations to engage in 'self-help' in dealing with enforcement of rights, because the argument is for a consideration of responses to innovation not limited to debate about the support on offer within the domain of copyright alone.

A significant danger of the technologically determinist approach to copyright's legal history is that the law presumes a self-importance and urgency about acting, as if existing corporations will fall over if presented with a copyright 'legal vacuum' as a consequence of technological change. However there is never a legal vacuum. Mis-alignment of economic expectation and legal right does not necessarily lead to a 'crisis' or industry 'disorder'. There are practices and strategies that encompass what is available from existing legal rights, and there are practices and strategies that route around legal 'failure'. There are also practices that create 'customary' industry-based rights.⁵¹ Reform can assist in the translation of the latter into new positive legal rights, but there is no evidence innovation per se flounders where law fails to act. It is just a different playing field, and those with fewer investments in existing IP rights have greater capacity to affect industry culture and future, when law responds conservatively to demands for reform.

Critiques of consumption

The study of consumption is a sub-discipline of the social sciences.⁵² Much of it began with addressing the foundations of conventional economics, where economics is understood to be primarily about the creation of value through the production and distribution of goods. In this model consumption involves the 'sovereignty' of private demand for goods, and on purchasing, the 'freedom' of self-gratification that comes with using them up. Actors are presumed to enter the marketplace with needs and wants already formed outside of it, with self-defined desires and interest.

Technologically determinist accounts of copyright's history are related to this conventional economic wisdom. This thinking allows for, for example, the old textile laws to be discounted as a relevant form of "copyright", because the rights awarded entailed an aristocratic mediation of consumer taste. In laissez faire capitalism, the presumption is that 'private' consumer taste is sovereign. Modern design laws, despite their mixed policy motivations, respect consumer sovereignty by the priority awarded to "visual appearance", understood as that which is distinctive in the marketplace, rather than that formally selected as 'worthy' of protection by one's peers.

⁵¹ See K Bowrey, "Alternative intellectual property?: Indigenous protocols, copyleft and new juridifications of customary practices", (2006) 6 *Macquarie Law Journal* (forthcoming).

⁵² See Don Slater, "Cultures of Consumption" in K Anderson, M Domosh, S Pile, N Thrift (eds), *Handbook of Cultural Geography*, (Sage, 2003) p147.

Conventional economics stresses that the inventiveness of modern man leads to the endless production of novel products and services, but there is a gap between a new invention and a new 'want'.⁵³ This gap makes investment in innovation especially risky. We do not know in advance what the next big mass market success is going to be; hence some level of protection to innovators is warranted.

Consumption critiques reject the separation of production from consumption, arguing that consumer 'needs' are structurally determined by processes of mass production and advertising. Purchases are not taken to be motivated by the expression of 'autonomous needs'. With all products, and particularly with 'ephemeral' cultural products, consumption choices are ascribed to purchaser receptivity to the 'symbolic meaning' of the commodities, inscribed through their particular advertising and marketing. However all commodities come manufactured, packaged and marketed to ensure both a material *and* a symbolic redundancy. It is this inherent redundancy that facilitates the ongoing cycle of further manufacturing/distribution/marketing/purchases.

Critiques of consumer society attribute an inherent source of instability to the culture industries because of the constant pressure to produce and reproduce the conditions of redundancy. There is an insistent "need to generate a constant stream of unique (if often similar products) products with a severely limited life span."⁵⁴ Further as Alan Hunt explains,

Changes in patterns of consumption produce [more] anxieties and attest to the inherent instability of the relationship between needs and wants.⁵⁵

It argued that rather than innovation being the consequence of a fertile mind, Consumer culture is about continuous self-creation through the accessibility of things which are themselves presented as new, modish, faddish or fashionable, always improved and improving. In keeping with the fashionable experience it provides, the very idea of consumer culture is constantly heralded as new: in each generation the Columbuses of capitalism rediscover the promised land of affluent freedom: while critics - both left and right - report our arrival in a frozen land of wealth without value⁵⁶

Much critique is engaged with trying to distinguish 'authentic' consumption and 'real needs', where inauthentic production/consumption is that which simply fuels the cycle of objects, drawing consumers into the 'freedom' of engaging with the endless production of artificial needs and satisfactions, and systems of personal credit to support their ongoing consumption tastes.

⁵³ Colin Campbell, "The Puzzle of Modern Consumerism" in Martyn Lee (ed), *The Consumer Society Reader*, (Blackwell, 2000).

⁵⁴ DiMaggio quoted in Celia Lury, *Cultural Rights, Technology, Legality and Personality*, (Routledge, 1993) at 63.

⁵⁵ Alan Hunt, op cit n. 26 at 402.

⁵⁶ Don Slater, *Consumer Culture and Modernity*, (Polity Press, 1997) at 9.

Commodification critiques are related to 'cultural studies', which is another sub-discipline focused on exploring how the cultural meaning is produced. Rather than focusing on the fertility of innovation, the analytic focus shifts to a study of "*the invention of novelty* within the iterated or serial production which characterises popular culture."⁵⁷

Commodification critiques still acknowledge risks to capital:

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.⁵⁸

There is uncertainty about reading significance into any particular 'moment' or relation between economic and social value. Further,

If we abandon these solutions to the problem which limit the production of significance to the immanent logic of the object itself -as an internal organisation of elements or as a latent essence ... then the criteria for excluding and organising information become increasingly uncertain. We are in a field without fences left with an intractable mass : 'cultural significance'.⁵⁹

Nonetheless, control over communications media -who owns and has access to mass communications mediums- becomes central to the capitalist's risk-management strategy because it increases political and economic power generally. Further Lury argues that,

Managers in the culture industry seek to maintain commercial success by adopting strategies which both inhibit competition by controlling their markets (in particular... by managing promotion and distribution), and controlling and co-ordinating creative workers. Their aim is to ensure that innovation remains routine, predictable and guaranteed to produce material acceptable to the widest possible range of individuals in the controlled market. That is, they actively *refrain from unnecessary competition through significant innovation* and associated deroutinisation of creative work.⁶⁰

Media concentration, vertical integration and diversification further increase access to investment capital, global market power, national and international political influence. This combination of tools and powers, allows for "an unprecedented degree of potential control over the range and direction of cultural production."⁶¹

This theory has ramifications for intellectual property laws and for explanations of copyright law reform. Bettig argues that intellectual property

⁵⁷ Celia Lury, op cit n. 54 at 4 (my emphasis) and see also "Chapter 3. Replication, Novelty and Reactivation" at 39-61.

⁵⁸ Dick Hebdige, "Objects as Image: The Italian Scooter Cycle", in Lee (2000) at 128.

⁵⁹ Ibid.

⁶⁰ Lury, op cit n. 54 at 63. (My emphasis).

⁶¹ Murdoch, cited in Ronald Bettig, "Who owns the message?" in his *Copyrighting Culture*, (Westview, 1996) at 41.

becomes a major strategic asset, where “control over intellectual property rights permits them to *extend* control”.

In critiques of ‘consumer society’ the expansion of copyright subject matter comes to be read in terms of law recognising new forms of capital, not in order to protect the value of ‘innovation’, but to facilitate the advance of capitalist relations into new fields of social life. In other words new additions to copyright subject matter create the ‘culture industry’, which supplements existing trade in manufactured objects. Thus photography ‘advances’ from an industry characterised by manufacture of contraptions and relatively limited small scale provision of various services to the public (supported by patents over the machinery and associated techniques), to also include copyrights over the mass produced (immaterial) image and the process of its mass dissemination.

Photography, cinema and sound broadcasting are the usual examples referred to here.

Edelman’s history of copyright traces the reclassification of photography from a process involving manual labour and incapable of sustaining a copyright, to a creative endeavour deserving protection. When photography was a craft practised by small tradespersons and amateurs in the mid 19th century it was seen as a mechanical activity. There was no labour involved capable of attracting a copyright. However with the cinema industry attracting investment in the early 20th century, particularly after the development of the talkies, the court changed the way it interpreted photographic activity. They ‘corrected’ the error of their previous classification and recharacterised photography as a creative endeavour. Edelman argues that the subject served by this was not the creative photographer because s/he automatically consented to the disposal of her/his rights in the image by way of a labour contract. It was ‘capital’ that copyright created and rewarded. Copyright reduced the risk to investors of a ‘plagiarised’ film competing with the ‘original’.⁶² The new copyright protection allows for much larger capital accumulations and potentially, via mass spectacle, it further creates the potential of global markets for such commodities.

Likewise, whilst ‘mechanical’ reproduction of a musical work was not at first recognised as a form of reproduction of sheet music, the inclusion of sound recording within copyright formally recognised the importance of mass audiences, initially as consumers of gramophone records and the like, and slightly later as ‘listeners’ of radio programs.⁶³ Such was the strength of

⁶² See Bernard Edelman, *Ownership of the Image. Elements for a Marxist Theory of Law*, translated by Elizabeth Kingdom, (Routledge, 1979). See also K Bowrey, “Copyright, photography & computer works - the fiction of an original expression”, in (1995) UNSWLJ 18 (2) at 278-299.

⁶³ See Thomas H. White, *United States Early Radio History* at <http://earlyradiohistory.us/>

perception of radio audiences in relation to particular stations, that many early receivers came built with pre-set tuning to a particular channel. ie. They had no capacity for tuning the dial to other stations. Tuning to another station thus required the purchase of an additional radio receiver.

The early recognition of a copyrightable expression contained in a telegraph, attributed to the 'audience's' decoding of its meaning, further shows a doctrinal willingness to incorporate the social inscription of meaning in understanding new media forms.

In order to facilitate the 'mass' quality of the new form of production, copyright expands recognition to a larger range of 'original creators' who produce work for audiences. It also expands to incorporate emerging 'new media' forms of reproduction/transmission of these works. Thus rather than focussing on the protection of the value of the "new media conduits", commodification critiques suggest that what copyright reform accommodates is the creation of rights *in the production of mass audiences*.

The legislative advance of copyright into "new subject matter" is understood alongside the creation of new regulations for broadcast media. Using the power to grant media broadcast licenses, and the power to create copyright in the content broadcast, the State creates a legal capacity to 'own' audiences. This entails the right to directly communicate 'content', advertising and marketing to 'the public'. The law facilitates both the production of desire for the cultural products broadcast, as well as for the other diverse kinds of manufactured objects and services advertised to the public via the mediums of commercialised mass communication.

Lury argues "exhibition value" comes to be recognised as the source of significance for the work.⁶⁴ That is, there is no intrinsic value ascribed to cultural goods and services produced, rather they come to be manufactured and marketed in light of market survey information about the character of the mass audience, and their viewing, listening and reading choices,

The construction of the audience-as-market and as-consumer has meant that the relationship between producers and their audiences is increasingly commercially calculative, rather than premised on disinterestedness. Moreover, it is argued that the significance of the already existing relationships between members of the audience is seen to have diminished; that is, they are designated as a set of individual and equal consumers, who are organised as a serial rather than an associative community.⁶⁵

This creation of audience-as-market can clearly be seen in the way ambiguity surrounding the interpretation of the 'public' character of performance rights has been managed in Australia. Whether or not a performance is "in public" and therefore one that requires remuneration to the owner is determined with reference to the question "Is the audience one which the owner of the

⁶⁴ Lury, op cit n. 54 at 57.

⁶⁵ Ibid at 59.

copyright could fairly consider *a part of his public?*”⁶⁶ There are few clearer expressions of the law’s facilitation of an established media empire’s ongoing accumulation of assets/audiences than this copyright test. Commercial ambition was recently further supplemented in Australia by replacing the cable diffusion right designed for broadcasting, with a new inclusive “*technologically neutral*” definition of the “communication right” to include all forms of ‘narrow-casting’, allowing for new revenues from niche markets.⁶⁷ Further as well as expanding copyright’s coverage here, the State chose to *maintain licensing restrictions* pertaining to digital broadcasting, out of respect for established media owner investments in analogue broadcasting designed for mass market audiences.⁶⁸ Thus broadcast regulation serves to forestall development of innovative digital media services in Australia, despite the new protections offering under copyright law.

From this perspective it is commodification and “governance” of audiences that is facilitated by copyright’s legislative expansion and associated doctrinal development.

Being governed means being under police supervision, being inspected, spied upon, directed, buried under laws, regulated, hemmed in, indoctrinated, preached at, controlled, assessed, censored, commanded ... noted, registered, captured, appraised, stamped, surveyed, evaluated, taxed, patented, licensed, authorised, recommended, admonished, prevented, reformed, aligned, and punished in every action, every transaction, every movement.⁶⁹

Whilst this definition of governance derives from Proudhon in the mid 19th century, it brings to mind contemporary digital agenda law reforms. Because of the ‘threat’ to owners posed by digital technologies relatively recent legislative and technological restrictions diminish personal use copying and fair dealing/fair use rights; award legal protection to forms of encryption/restriction in ways of accessing works; protect electronic rights management information that assists in tracking usage/users; create new criminalisation of “mass” forms of facilitation of infringement. These laws potentially have global territorial application.⁷⁰ The digital agenda reforms are contemporary examples of the historic dynamic of copyright law creating/protecting corporate assets. Policing of more autonomous forms of engagement with works by ‘consumers’ is inherent in this form of protection,

⁶⁶ *Ernest Turner Electrical Instruments Ltd v Performing Right Society Ltd* cited in: *Telstra Corporation Ltd v Australasian Performing Right Association* [1997] HCA 41. (My emphasis).

⁶⁷ *Copyright (Digital Agenda) Act*, 2000. (Cth).

⁶⁸ See for example, Australian Broadcasting Corporation, (ABC) Submission, “Inquiry into the Uptake of Digital Television in Australia” (May 2005); “Inquiry into the Introduction of Digital Radio”, (April 2005).

⁶⁹ Proudhon quoted Hunt op cit n.26 at xi.

⁷⁰ See *Griffiths v United States of America* [2005] FCAFC 34.

especially where technology may permit personal inscriptions of meaning that disrupt communication of the corporate message(s).⁷¹

In cultural studies literature, it is not generally the case that audiences are presumed to be passive, unintelligent 'dupes' readily able to be manipulated by slick corporate campaigns. Nor are consumers, as legal subjects, presumed to be legally obedient or cowering in the face of law's punitive potential. Rather it is suggested that the true disciplinary character of the market relations for cultural products can usually be hidden. This is because of the development of image marketing.⁷²

Whilst not deceiving all of the people, all of the time, image marketing suggests 'genuine' affective relations are inscribed in commodities. These relations are expressed in the form of personal attachments to celebrities and trade marks associated with the marketing of the commodities. These 'virtual' relations are a mechanism for disguising the forms of alienation inherent in the system of production/consumption, and act to provide a foundation for social connection, community and disciplined social cohesion essential to the definition of 'audience' and 'demand' in the marketplace.

Personality rights, unfair competition actions and trade mark law are thus considered important because they turn corporate investment in celebrity and trade mark into valuable assets. This facilitates market control by helping reduce competition, with the added advantage of 'spin-off' marketing and merchandising. However these doctrinal specialisations also have a larger role to play in the history of intellectual property law.⁷³ These legal mechanisms are particularly helpful in assisting with copyright's image management, (a.k.a control over audiences) because celebrity and trade mark work to naturalise/neutralise the branding of audience(s) within commodity culture, with audiences defined along with the relevant fan bases. Further through legal interventions to enforce ownership rights, more autonomous and spontaneous community activity can be kept in line, and reappropriated back into the system of the production of audiences.

Rejecting 'order' and 'balance' in copyright law

Commodification critiques and cultural studies readings of intellectual property law implicitly reject the notion of balancing owner and user interests as a

⁷¹ These of course now include "Don't steal copyright" messages.

⁷² See Lury op cit n. 54; Jane Gaines, *Contested Culture: The Image, The Voice And The Law*, (Uni Of North Carolina Press, 1991); Rosemary Coombe, *The Cultural Life of Intellectual Properties Authorship, Appropriation, and the Law*, (Duke UP, 1998). Also David Rolph, *The concept of reputation in Australian Defamation Law*, (PhD thesis, Uni of Sydney, 2005).

⁷³ Gaines explains it this way: "Does intellectual property proscribe certain aesthetic forms? Does it ensure the existence of some forms and not others? Do we therefore want to say that this law has a part in the social production of meaning? Does the consideration of intellectual property as another code that determines the availability of popular signs need to be factored into our theories of meaning?", *ibid* at 4.

possible policy objective expressed in or through copyright law reform. The entire language of ‘balance’ desires an equilibrium that defies the reality of law’s conscious creation and continual recreation as part of the social and economic fabric within a system of commodity relations. ‘Balance’ suggests the possibility of law moving beyond a state of constant disruption. The fantasy is that capitalism can transcend the need for ongoing close management and policy adjustment, with attention to:

- existing legal doctrine;
- ‘real’ innovation;
- the receptivity of the State to particular demands;
- the plans and actions of other corporate actors;
- the demands of ‘talent’ and,
- the fickleness of ‘mass’ and ‘niche’ audiences as they respond to the ‘novelty’ always on offer.

The inherent value of technology

In commodification critiques, the ‘arrival’ of mass media and associated marketing techniques are taken to have transformed the potential for the production and circulation of signs. The internet and associated ‘new’ digital technologies of narrow-casting have further multiplied and accelerated the circulation and penetration of symbolic meanings. These technologies allow for a more targeted reading of the ‘needs’ of smaller audiences, new methods of extracting capital from a broader range of social practices, and have provided a more timely means of relating more diverse interests, that can usefully inform the dynamics of ‘global culture’.⁷⁴

With the digital economy, recent copyright law reform has ensured that “significant innovation” has been suppressed. However the power of replication inherent in digital technologies is still harnessed. The fertility that is maintained and protected here is the abundant potential inherent in global corporate negotiations over the nature and future forms of capitalism, facilitated by controlling use of and access to technology via rights mediated by the State, associated with both broad and narrow communication mediums.

Network theory

Network theory developed from the sociology of science and technology. It is commonly associated with the work of Bruno Latour,⁷⁵ Michel Callon and John

⁷⁴ See (eds) Diana Crane, Noboko Kawashima and Ken’ichi Kawasaka, *Global Culture. Media, Arts, Policy and Globalisation*, (Routledge, 2001).

⁷⁵ Bruno Latour, “Technology is Society Made Durable” in J Law (ed), *A Sociology of Monsters: Essays on Power, Technology and Domination*, (Routledge, 1991); *We have never been modern*, (Prentice Hall, 1993); *Aramis, or the love of technology*, (MIT Press, 1996).

Law.⁷⁶ However many concerns of network theory are also shared in writings on postmodernism, globalisation, new technology/new media practice and political theory.

As with postmodernism, “the social investigator is no longer considered to have privileged access to social reality” and “there is no one real and definite pattern of scientific development or of the structure of society, that is, so to speak, waiting in the wings to be discovered. Rather there is a multitude of perspectives, each struggling to extend its scope and its influence.”⁷⁷

Accordingly, network theory rejects the conceptual separation of society/actor; structure/agency; global/local; collective/individual; macro/micro and technology/culture, and essentialised notions of ‘the social’, ‘the technical’ and ‘the cultural’. As Latour describes it,

...the network pole of actor-network does not aim at all at designating a Society, the Big Animal that makes sense of local interactions. Neither does it designate an anonymous field of forces. Instead it refers to something entirely different which is the *summing up* of interactions through various kinds of devices, inscriptions, forms and formulae, into a very local, very practical, very tiny focus.⁷⁸

The theory seeks to explain the ‘social order’,

... through the networks of connections between human agents, technologies and objects. Entities (whether human or non-human) within those networks acquire power through the number, extensiveness and stability of the connections routed through them, and through nothing else. Such connections are contingent and emerge historically - they are not natural - but, if successful, a network acquires the force of ‘nature’; it becomes, in a favourite term of actor network theory, black-boxed.⁷⁹

Thus with actor-network theory the political analysis shifts away from relying on generalisations explaining an actor’s behaviours and reasoning within pre-given structures of society, to focus on the procedures that enable the creation of the world/reality through actors negotiating with others.⁸⁰ There remains recognition of asymmetries of power in relation to “connectivity”.

Informed by Foucault’s conception of an archaeology of power/knowledge,⁸¹ network theory draws more attention to the role of spatial factors in

⁷⁶ Michel Callon, John Law & Arie Rip (eds), *Mapping the Dynamics of Science and Technology*, (Macmillan, 1986); John Law, *Organising Modernity*, (Blackwell, 1994); John Law & John Hassard (eds), *Actor Network Theory and After*, (Blackwell, 1999).

⁷⁷ Michel Callon, John Law & Arie Rip “Putting Texts in Their Place”, in Callon, Law and Rip, *ibid* at 227.

⁷⁸ Bruno Latour, “On recalling ANT” in Law & Hassard, *op cit.* n. 76 p15-25 at 17.

⁷⁹ Nick Couldry, “Actor Network Theory and Media. Do they connect and on what terms?” in Andreas Hepp et. al. (eds.), *Cultures of Connectivity*, forthcoming, http://www.lse.ac.uk/collections/media@lse/pdf/Couldry_ActorNetworkTheoryMedia.pdf.

⁸⁰ Latour in Law & Hassard, *op cit* n.76 at 21.

⁸¹ Michel Foucault, *The archaeology of knowledge*, (Routledge, 1972); *The order of things*, (Routledge, 1989).

establishing networks, than to the determinative effect of narrative power exercised in 'stable' or 'existing' networks. Compared to the above commodification critiques, it suggests a need for a deeper consideration of the systems that fragment, disrupt, transform, distort and diffuse 'corporate signals' - and of the dispersal/creation of meanings more specifically.

Though network theory is not a theory of the internet per se, clearly it can be usefully applied in understanding the significance of these decentralised, fragmented flows of information on the capacity for understanding and acting in the world.

It is increasingly difficult to think of cultural formations as distinct entities because of ... a tendency of informational flows to spill over from whatever network they are circulating in and hence to escape the narrowness of the channel and to open up a wider milieu.

...Information bounces from channel to channel and from medium to medium; it changes form as it is decoded and recoded by local dynamics; it disappears or it propagates; it amplifies or inhibits the emergence of commonalities and antagonisms. Every cultural production or formation, any production of meaning, that is, is increasingly inseparable from the wider informational processes that determine the spread of images and words, sounds and affects across a hyperconnected planet.⁸²

Since the late 1990s and early 21st century network theory has increasingly become preoccupied with analysing the structural implications of computer networks, to the relative neglect of further analysis of the power of 'old media'.

The preoccupation with information technology stems from a determination of the central role communications networks play in the 'digital' economy.

A transformative economic shift is generally dated from the 1970s, characterised by the rise of information technologies facilitating more rapid flows - of capital, data, ideas, less centralised regulation of communications and more 'flexible' workplace practices. Information technology permits 'just-in-time' production and the capacity to service 'niche' markets (This is also called a Post-Ford economy, to emphasise the move away from the Ford production line model developed to service mass markets).

A commodification/cultural studies explanation of the rise of the information economy points to the role of corporations in *facilitating control* over the circulation of meaning and the symbolic value of commodities. Network theory looks in more depth at the *capacity for action* in the information economy. Action is understood in distinction from 1980s and early 90s political discussions of 'empowerment' and the preoccupation of locating sources of 'authentic' community and potential sites of resistance to manufactured culture/meaning. Action is a *de-centred* world-building power.

⁸² Tiziana Terranova, *Network Culture. Politics for the Information Age*, (Pluto, 2004) at 2.

In terms of producing cultural significations,

The power of communication and the media is not only the power of imposing an ideology, forming a consensus or manipulating the opinion of the majority, but also a biopolitical power, that is a power of inducing perceptions and organising the imagination, of establishing in a subjective correspondence between images, percepts, affects and beliefs. What appears challenging ... is that these flows of images/perceptions/sensations/intensities are not necessarily anchored in cultural and social identities narrowly conceived.⁸³

Rather than showing alarm or concern for the corporation's legal capacity to suppress innovation generally, the analytical focus shifts to explaining the ongoing *production of innovation*. Further the corporation is not addressed as an independent, or unitary actor capable of 'organising' innovation. Innovation becomes a codeword for a manner of engagement. It is not itself definable as an instance, or a quality of any particular technology. Innovation is assumed inherent in the interrelationships forged between people, organisational systems and technology.

As the gaze turns to "summing up" the "very local, very practical, very tiny focus" of the network, analysis can become preoccupied with explaining the rise of 'free labour' in the information economy. Why is it that literally millions of individuals chose to contribute in so many diverse ways, and be so productive and generous with their time, labour, creativity, ideas, and network/knowledge building? However is creativity produced and how has it been transformed via global communications networks?

While much writing, drawing on commodification critiques, interprets the rise of "free labour" as a sign of potential emancipation from the capitalist exploitation⁸⁴, other post-Marxist versions of network theory attribute the rise of free labour to the compression of time in the advanced capitalist digital economy.

The digital economy, then, challenged the postmodern assumption that labour disappears while the commodity takes on and dissolves all meaning. In particular the internet foregrounds the extraction of value out of continuous, updateable work and is extremely labour intensive. It is not enough to produce a good web site, you must update it continuously to maintain an interest and fight off obsolescence. Furthermore you need updateable equipment... which in its turn is propelled by the intense collective labour of programmers, designers and workers. It is as if the acceleration of production has increased to the point where commodities literally turn into translucent objects. Commodities do not so much disappear as they become more transparent, showing through their reliance on the labour that produces and sustains them....The commodity then, is only as good as the labour that sustains it.

...As a consequence, the sustainability of the internet as a medium depends on massive amounts of labour (which is not equivalent to

⁸³ Ibid at 152.

⁸⁴ See for example, Mackenzie Wark, *A Hacker Manifesto*, (Harvard UP, 2004).

employment)...Of the incredible amount that sustains the Internet as a whole, we can guess that a substantial part of it is still “free labour”.⁸⁵

Network theory is useful for explaining the rise in discourse about the subject of innovation and creativity in the information economy, and for thinking about the status and significance of free software, open source and cultural commons production for copyright law. Such preoccupations arise from engagement with digital communications within a network process.

Whilst there is no objective measure or mode of accountability for the value of ‘free’ labour in the information economy, what can be engaged is a form of ongoing experimentation or play, to see what can and cannot be sustained, at any one point, as a ‘gift’ or as providing an opportunity for ‘user-pays’.

The Internet advertised on television and portrayed by the print media seems not just the latest incarnation of capital’s inexhaustible search for new markets but also a full consensus-creating machine, which socializes the mass of proletarianized knowledge workers into the economy of continuous innovation.

...digital workers are described as resisting or supporting the project of capital, often in direct relation to their positions in the networked, horizontal and yet, hierarchical world of knowledge work.⁸⁶

As with commodification theory, network theory offers a suitable (but depressing) explanation of the current level of abstraction in intellectual property law around the principle of value, and of the shift to private ordering as the main legal means for clarity in expression of value. The ascendancy of a highly abstract jurisprudential focus on new technology as producing value helps to repress any closer examination of the relation of labour to the extraction of surplus value. This is useful because there is no approach (no location in time) that is capable of facilitating a more secure legal account for the value of that which has been produced/about to be made redundant. Correspondingly, the key classificatory tools of legislation and jurisprudence are “technologically neutral” and vague about the definition of the potential objects caught in their web. Supplementing the ever-expansive legal determination of right, there is also formal recognition of the need for private production/enforcement of value (using things like technological measures). This is not just to enhance ‘control’ over the micro-extraction of profits, but also to ensure maximum flexibility in definition of what can be valued and what will be left free, with all efforts still circulating within market relations.

Network implications for copyright law

What is depressing about this analysis is the nihilistic space one ends up in, in the legal domain. The critical treatment of subject/object dualities, essentialist identity and foundationalism in law is persuasive, and private power is all pervasive. However is law possible at all without these rigidities,

⁸⁵ Terranova op cit. n.82 at 90-91.

⁸⁶ Ibid at 80-81. Terranova notes the discrepancy in analysis of free labour in relation to free and open source software, to that of online chat and gaming communities at 94.

and is there anything possible beyond private ordering? For example, is there a means of addressing structural disadvantage, outside of “negotiated” outcomes?

One of the biggest gaps in jurisprudence today is a sensitive and scholarly analysis of the public/private character of intellectual property where it is recognised that, (constitutionally, as well as scientifically) “we have never been modern”⁸⁷. Because of the institutional links between multi-national corporate power and national and global government, and obvious shortcomings in the public and participatory character of law-making⁸⁸ it is easier to maintain purpose and definition as intellectual property lawyers by reference to a politics of resistance to the instrumentalism of ‘large’ corporations.⁸⁹ Castels argues however that this politics is itself a product of identity in the network society,

*Subjects, if and when constructed, are not built any longer on the basis of civil societies, which are in the process of disintegration, but as a prolongation of communal resistance. While in modernity (early or late) project identity was constituted from civil society... in the network society, project identity, if it develops at all, grows from communal resistance. This is the actual meaning of the new primacy of identity politics in the network society.*⁹⁰

In the intellectual property world many legal academics have taken on a network “project identity”. In explaining contemporary law reform, what these lawyers resist is the status quo defined with reference to a narrative of legal/economic control for private ends. The deconstruction of that narrative is therefore cast as action in/for the ‘public good’, the public being empowered through communications networks, and supported in law by the adoption of “public” or “commons” (rather than proprietary) forms of copyright licence.

There are two major implications arising from this copyright discourse and advocacy. Firstly as the existing free-flowing capacity of digital communications technology is drafted as an essential component of the sociability of the network - an enabler of identity and resistance - internet technologies are constructed as the (potential) foundation of ‘public’ good. These technologies are ‘knowledge enhancing’, ‘community building’ and ‘identity-forming’. This leads to legal activism that uncritically supports the

⁸⁷ Latour op cit. n.75.

⁸⁸ See Kathy Bowrey, “Can we afford to think about copyright in a global marketplace?” (ed) Fiona Macmillan, *New Directions in Copyright Law*, Volume 1 (Edward Elgar, 2005) pp51-69; Peter Drahos with John Braithwaite, *Information Feudalism: Who Owns the Knowledge Economy?*, (Earthscan 2002).

⁸⁹ See for example, Yochai Benkler, “Coase's Penguin, or Linux and the Nature of the Firm”, (2002) 112 *Yale Law Journal* 369; James Boyle, “The Second Enclosure Movement and the Construction of the Public Domain”, (2003) 66 *Law and Contemporary Problems* 33.

⁹⁰ Manuel Castells, *The Power of Identity*, (Blackwell, 2004 ed) at 1-12.

right of access to decentralised communications/knowledge and that seeks to shore up and confirm the 'personal use' exception to copyright infringement.⁹¹

Moreover old media forms (books, public screening of film, albums) and 'private' licences are by comparison, treated as inherently suspect as they are taken to posit the earlier, more determined social relations. Copyright laws, and forms of licensing that protect these 'old' mass market commodities, are doubly bad. They maintain the earlier more asymmetrical power relations, as well as being contrived to forestall the ascendancy of new, more 'democratic' relations.

Secondly, out of concern for the political importance of laws that support de-centred network communications, a common-sense presumption that law must serve the economy, and a conservative desire for mainstream "legitimacy", most intellectual property critique and activism strenuously abstains from any project of "resisting capital". That is, it is okay to resist (and be seen to resist) the agenda-setting of parliament, global legal fora, proprietary corporations and their copyright maximalisation, but it is not acceptable to conceptualise of law that would seek to disrupt innovation. That is, copyright must now always be discussed in relation to innovation. To conceptualise of copyright without a primary reference to innovation policy has become unthinkable.

In legal accounts that draw upon critical theory, technology is not seen as that which creates value. However innovation is value, even though there will be debates about its metrics, and the related power that new laws affirm. While innovation has no set direction or path, it must continue. And its continuation is secured by ongoing advocacy and law making (both public and private) that maintains the 'openness' of information flows.

Thus intellectual property debate around innovation here returns to quibbling over what is and isn't "open" and "accessible", the degree to which 'open access' should be mandated and regularised, deeper justificatory theories of innovation, and the potential need for 'cultural exceptions' to these principles (especially pertaining to 'traditional peoples').

Lessig's *Free Culture*⁹² Advocacy

Lessig's book, described on the dustcover as a tome about the perils facing "the ecosystem of creativity", could be mistaken by the linguistic emphasis on 'architecture' and 'environment' as related to network theory. However the

⁹¹ This problem is taken up in Jane Anderson & Kathy Bowrey, "The Imaginary Politics of Access to Knowledge", Con/texts of Invention Conference Paper, Case Western Reserve University, 20-23 April 2006, available at <http://www.cwru.edu/affil/sce/contexts%20of%20invention%20papers.html>

⁹² Lawrence Lessig, *Free Culture. How Big Media Uses Technology and the Law to Lock Down Culture and Control Creativity*, (Penguin, 2004).

work departs from that politics. It combines a determinist account of the new technological arrival, with a story of corporate suppression of innovation, and a preoccupation with the creative value of 'free' labour.

In turn Lessig addresses the development of radio, the internet, comics, photography, film, recorded music, cable TV. With each development he invariably tracks the arrival of an 'original' innovator and comments on the mysterious path of the invention's commercial development. But regardless of the specifics of the tale he opines,

Creators here and everywhere are always and at all times building upon the creativity that went before and that surrounds them now.⁹³

These separate stories sing a common theme. If "piracy" means using value from someone else's creative property without permission from that creator - as it is increasingly described today - then *every* industry affected by copyright today is the product and beneficiary of a certain kind of piracy. Films, record, radio, cable TV...The list is long and could well be expanded. Every generation welcomes the pirates from the last. Every generation - until now.⁹⁴

The book advocates the adoption of creative commons and related copyright licences to maintain our 'tradition' of creative sharing a.k.a piracy a.k.a. progress of the arts and sciences.

This book is markedly different to all of the above scholarship because the readership targeted is not primarily academic. This is a popularist text that services the copyright information needs of a "mass audience". This readership is assumed to be interested in learning about copyright and innovation, however as a mass audience they are not presumed to have any scholarly or practical knowledge of the law, outside of their direct experience as consumers of cultural products, (including an understanding of how they are conceived of by mass media conglomerates). The intuitive appeal is to a classic sense of justice and fair play in a liberal democracy.

At every stage Lessig reaffirms the notion of the essential creativity of labour/mankind. Individuals will be able to produce 'good' inventions, given the 'right' balance in laws and licences. Thus where copyright laws work 'optimally' little political attention from 'everyman' would be required to maintain innovation.

This message is designed to reassure the readership that firstly, they are inherently creative, and secondly, that their main legal responsibility in relation to the economy and society is satisfied by appreciation of their and other's copyright licensing choices. Members of the public are largely absolved from any greater responsibility for law-making or sustained normative engagement with the definition of legal values pertaining to innovation.

⁹³ Ibid at 29.

⁹⁴ Ibid at 61.

This is a legal realist framework where legislation, supplemented by contract/licence, should maximise the common good. All law is conceived as primarily instrumental in character and Lessig's arch-narrative provides for a simple synthesis of the myriad of different new copyright laws, enacted since the 20th century. In crafting a legal response to the 'disruptive' consequences of a new technology, there is a 'black-boxing' of private property rights. That is, it is presumed that the appropriate legal response should ordinarily be an award of a new private property right. However advocacy is always for a limited right, in view of the primary importance of law facilitating further innovation, and the utilitarian justification for a balance between protection/access informing any legal specifics.

With commodification and network theory we are all expected to forge self-awareness and identity by critically engaging with the technology, products and others around us. Thus this scholarship quite optimistically places high expectations on individuals, in terms of their energy, interest and ability to interpret the world they engage and produce. Further taking responsibility for the 'order' produced, comes with recognising the existing limits to that order and redressing asymmetries of power to maximise personal engagement and responsibility for the world that is.

With Lessig's thesis, legal and economic 'experts' should take primary responsibility for answering questions about the nature of the social and economic order, as produced and maintained through law. For now, our personal and collective identity is threatened because particular corporations have "too much" power. However a "free culture" provides for a more vibrant and meaningful personal identity - expressed in terms of more private production and more consumption - which fuels a more fertile cultural economy.

Is there anything distinctive about the current flurry of academic interest in the copyright/technology/innovation nexus?

There are clearly many ways of addressing how these three powers inter-relate. Further each of the theories outlined above interconnect or talk to or at each other at various points. In this sense the discourse around copyright/technology/innovation is most clearly a fertile ground.

However this paper is prompted by impatience with the current developments in this discourse. Most recently, especially since the major reforms associated with the digital agenda have been enacted, "innovation" has become "the cause" of the law, and scholarship, critical and otherwise, has become linked with various 'project-identities'. Differences aside, this scholarship constructs all of us - as lawyers and as citizens - working in the service of innovation. I find this positioning troubling. It seems we have forgotten that, whatever its precise meaning or expression, that intellectual property scholarship, the associated advocacy and causes, is itself always a product of its/our time. Compare this positioning for example, to the 18th and 19th century petitions,

where copyright was not obviously related to innovation at all, but invariably requested to alleviate the suffering of the poor, and for facilitating more employment.⁹⁵

This is not to suggest that at an earlier point in time, copyright law was more 'complete' or served society better. It is to express dissatisfaction with the way intellectual property scholarship currently manages its values. The creativity the "innovation project" currently unleashes for intellectual property lawyers primarily serves to mask its relation to our place and time in history.

What is distinctive about the current flurry of interest in the copyright/technology/innovation nexus is that for all the unpacking of the terms and relationships, it always now seems to lead, by each of the four paths, to the collapsing of the divides, and tautology of the terms.

As copyright lawyers, however we act, we act as midwives to the new economy. To the extent that we justify that activity, it is often in the name of the greater good, the public interest, the collective, the communities we feel closest to. However much scholarship now uses references to the imperative of copyright/technology/innovation to fudge that specificity. Thus the trilogy has become a source of doctrinal stability for new aspirations in copyright law. And it works as more than mere aspiration to the extent that new scholarship is able to be reproduced in practice, through the circulation of new forms of copyright licence.

⁹⁵ Eg. Text from the Statute of Anne, 1709: *An act for the encouragement of learning, by vesting the copies of printed books in the authors or purchasers of such copies, during the times therein mentioned.*

Whereas printers, booksellers, and other persons have of late frequently taken the liberty of printing, reprinting, and publishing, or causing to be printed, reprinted, and published, books and other writings, without the consent of the authors or proprietors of such books and writings, to their very great detriment, and too often to the ruin of them and their families: for preventing therefore such practices for the future, and for the encouragement of learned men to compose and write useful books; may it please your Majesty, that it may be enacted,..."

Table #1. Innovation and Expansion of Copyright Subject Matter and Rights

TIMELINE	TECHNOLOGY	INVENTOR	RELATED PATENTS	COMMODITIES	COPYRIGHT PROTECTION
??	Cast sculptures		No	Sculpture Casts & models	Sculpture Copyright Act 1798
8 th cent? 1600s	Woodblocks	China India	No No	Books Images Chintz fabrics	
1430s	Engraving	Germany Italy	England -1617 Patent No 1 for "Engraving and Printing Maps, Plans &c"	Images	Engraver's Act 1734, 1766 (UK)
1452	Moveable type printing press	Chinese? Gutenberg (Germany) (Dutch?)	1473 Venetian Patent Ordinance	Books Music	Stationers' Company Charter 1557 Statute of Anne 1710 (UK) Dramatic Copyright Act 1833 (UK) Societe des Auteurs, Compositeurs et Editeurs de Musique (SACEM) established in France 1850 Berne Convention for the Protection of Literary & Industrial Works 1886
Mid 16 th cent	Etchings	Numerous	No	Images	Fine Art Copyright Act 1862 (UK)
1752	Colourfast copperplate printing	Francis Nixon (Ireland)	No	Printed textiles	Calico Printer's Act 1787 (UK)
1775	Electric Telegraph	George Louis Lesage (Swiss)	Yes	Telegram	Telegram Copyright Act 1871 (Vict.)
1785	Roller printing	Bell - Parkinson (UK)	Yes	Printed textiles	Design Copyright Acts 1787; 1794; 1839 (UK)
1798	Lithography	Aloys Senefelder (Germany)	Yes	Printmaking Colour prints	Fine Art Copyright Act 1862 (UK)
1814	Steam driven printing	Friedrich König (Germany)	Yes	Books	
1821 1856	Difference Engine Analytic Engine	Charles Babbage (UK)	No	Computers	

TIMELINE	TECHNOLOGY	INVENTOR	RELATED PATENTS	COMMODITIES	COPYRIGHT PROTECTION
1837	Daguerreotype process	Louis Daguerre (France)	Patented in UK 1839/Public domain in France	Photography	Fine Art Copyright Act 1862 (UK) Berlin Convention adds photography, film and sound recordings to Berne Convention 1908
1840	Electro-etching	Spencer & Wilson (UK)	Yes	Metal plates and objects, decorative silverware, cutlery	Ornamental Designs Act 1842 (UK)
1840	Electro-Magnetic Telegraph	Samuel Morse (USA)	Yes	Telegraphic Signalling	Ager v Peninsular & Oriental Steam Navigation Co (1884) 26 Ch D 637-
1843 1867	Daedalum	George Horner (UK) Milton Bradley (UK) William Lincoln (USA)	Yes	Zoetrope	
1850 1857	Submarine cable-UK to France Transatlantic cable	Messrs. Brett, Reid, Wollaston and Edwards (UK) The Atlantic Telegraph Co (UK)			
1852	Photogravure	William Henry Fox Talbot (UK)	Yes	Printmaking	Fine Art Copyright Act 1862 (UK)
1854	Boolean algebra	George Boole (Irish)		Binary code	
1863 1867 1904	Pianista Pianola	Fourneaux (France); Edward Votey (USA) - Aeolian Co	Yes Yes	Piano player Piano rolls	Boosey v Whight (1899) 1 Ch 836; White-Smith Music Pub. Co. v. Apollo Co., 209 U.S. 1 (1908)
1881	Data Punch Cards	Herman Hollerith (USA); IBM (1896)	Yes	Computer programming	US Copyright registrations for software in early 1960s
1888	Camera	George Eastman- Kodak (USA)	Yes	Camera Brownie Box Roll Camera (1900)	Copyright Act 1911 (UK)
1891 1896	Kinetoscope Vitascope	Thomas Armat & C. Francis Jenkins for Thomas Edison Co (USA)	Yes	Film Projector	Copyright Act 1911 (UK)

TIMELINE	TECHNOLOGY	INVENTOR	RELATED PATENTS	COMMODITIES	COPYRIGHT PROTECTION
1893	Wireless Telegraph	Nicola Tesla (USA) Alexander Popov (Russia) Guglielmo Marconi (Italy) etc	Yes	Radio	Copyright Act 1956 (UK) Copyright Act 1968 (Cth)
1896			No		
1898			Yes		
1898	Magnetic Recordings	Vladimir Poulsen (Denmark)	Yes	Telegraphone	
1906	Radio Broadcast	Reginald Fessenden (Canada/USA)	Yes	Voice radio and later two-way radio transmission Cell/mobile phones	"An Act to regulate radio communication" 1912 (USA)
1907	Motion pictures; Cinematographe	Lumiere brothers (France)	Yes	Portable motion-picture camera, film processing unit and projector	Copyright Act 1911 (UK)- as dramatic works Barker v Huton [1912] 28 TLR 496 as photographs Copyright Act 1956 (UK) Copyright Act 1968 (Cth)
1924 1926	Radiovision	Charles Jenkins (USA) John Logie Baird (Scot)	Yes	Radiovisor (Television)	Copyright Act 1956 (UK) Copyright Act 1968 (Cth)
1928	Radiomovie broadcasting	Charles Jenkins (USA)	Yes	Television broadcast station	Rome Convention adds broadcasting to Berne Convention 1928 Brussels Convention adds television to Berne Convention 1948 Copyright Act 1956 (UK) Copyright Act 1968 (Cth)
1928	Magnetic Tape recording	Fritz Pfleumer (Germany)	Yes		
1938	Xerography	Chester Calson (USA)	Yes	Photocopier	Copyright Act 1968 (Cth)- published edition copyright; 1970s redrafting of educational copyright etc. Copyright Agency Ltd (CAL) formed Australia 1974 Copyright Licensing Agency formed UK 1982

TIMELINE	TECHNOLOGY	INVENTOR	RELATED PATENTS	COMMODITIES	COPYRIGHT PROTECTION
1939	Digital Computer	John V. Atanasoff (USA)	Yes- but WW2 unfiled	Computers	
1945	Memex idea (storage retrieval device using microfilm)	Vannevar Bush (USA)	No	Electronic document retrieval, Hypertext	
1947	Transistor	John Bardeen and Walter H. Brattain; William Shockley (Bell Laboratories) (USA)	Yes	Computers Satellite	
1948	Cable Television	John Walson and Margaret Walson (USA)		Cable television	Copyright Act 1956 (UK) Cable & Broadcasting Act 1988 (UK) Copyright Act 1968 (Cth)- diffusion rights
1956 1963 1970 1975 1976	Video Cassette Recorder VCR Betamax VHS	Ampex Sony Philips Sony JVC/Sony	Yes (Japan, USA, Korea)	Videotape & Recorders	Sony Corp. of America v. Universal City Studios, 464 U.S. 417 (1984) (Betamax decision) CBS v Amstrad (1988) Blank tape levies
1958	Integrated circuit	Jack Kilby (Texas Instruments); Robert Noyce (Fairchild Semiconductor Corporation) (USA)	Yes	Microprocessors	Semi-Conductor Chip Protection Act 1984 (US) Washington Treaty on the protection of IP in Respect of Integrated Circuits 1989 Circuit Layouts Act 1989 (Cth) 1989 UK amendment to Copyright, Designs and Patents Act
1958	Laserdisc	David Paul Gregg (USA) Philips/MCA	Yes	Players and discs	
1962	Telstar 1 Colour television broadcasting satellite	Bell Laboratories/AT&T; NASA	Yes	Satellite broadcasts	Satellite Home Viewer Act (SHVA) 1988 (US)
1963	Compact Audio Cassette	Philips	Yes	Audio tape & Recorders	
1969	ARPAnet	US Dept of Defence	No	Civilian internet	
1971	Memory disc	IBM	Yes	Floppy disc	

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1973 1980s 1988	Optical Storage media CD Recordable	Jim Russell (USA) Sony/Philips	Yes Yes	CD ROM	Audio Home Recording Act 1992 (US) EU and Canadian recordable media taxes WIPO Copyright Treaty 1996; DMCA 1998 (US) Copyright Amendment (Digital Agenda) Act 2000 (Cth)
1973	Ethernet	Robert Metcalfe (Xerox)	Yes	Local Area Networks (LANs)	
1974/5 1976/7	Personal Computers	Altair; IBM 5100 Apple 1, 11; Commodore	Yes	Hardware; Software	Copyright Act 1980 (US) Copyright Amendment Act 1984 (Cth) Copyright (Computer Software) Amendment Act 1985 (UK)
1979	Distributed computing	Tom Truscott & Jim Ellis-USENET (USA)	No	Bulletin Board systems, P2P networks and apps	WIPO Copyright Treaty 1996 DMCA 1998 (US) Copyright Amendment (Digital Agenda) Act 2000 (Cth)
1979	Walkman	Sony (Japan)	Yes- 1977 Andreas Pavel's "Stereobelt"	Personal music players	
1988 1993	MPEG Standards MPEG Audio Layer	Moving Picture Coding Experts Group Fraunhofer-Gesellschaft (Germany)	International Standards Organisation; Numerous Thomson	MPEG MP3	
1989 1998		Free Software Foundation Open Source Initiative	No	Software	GNU Public License Version 1 Open Source
1991	World Wide Web	Tim Berners Lee (USA)	No	Text and image browsers Internet and Carriage Service providers	WIPO Copyright Treaty 1996 DMCA 1998 (US) Copyright Amendment (Digital Agenda) Act 2000 (Cth)

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1993	Audio Compression	Fraunhofer-Gesellschaft (Germany)	Yes	MP3	
1995	DVD format	DVD Forum	Yes: (Philips, Sony, Matsushita, Toshiba)	Players and discs	
1996	Content Scrambling System (CSS)	DVD Copy Control Association	Yes	CSS; DECSS (1998) Authentication keys	WIPO Copyright Treaty 1996 DMCA 1998 (U); Copyright Amendment (Digital Agenda) Act 2000 (Cth)
2001	iPod	Apple	Yes	MP 3	New fair dealing provisions in Australia?
2001		Centre for Public Domain/Copyright academics		Digital content	Creative Commons License
2003	Blu-ray	Hitachi, LG Electronics Inc., Matsushita Electric Industrial Co., Pioneer Corporation, Royal Philips Electronics, Samsung Electronics Co., Sharp Corporation, Sony Corporation, and Thomson	Copyright	HD Content HD Television recording HD Camcorder recording Mass data storage Game console	Supports DRM; encryption, region encoding