LITERATURE REVIEW

IPR—General


Intellectual property rights play a central role in biotechnology innovation. Patents, in particular, preoccupy research funding agencies, venture capitalists and governments, despite the fact that the value of patents is disputed and their impact continues to foster controversy. Perhaps more crucially to a fuller understanding of innovation, focus on instruments of intellectual property protection over-illuminates one stage of the flow of knowledge in innovation, leaving up- and down-stream phases in relative obscurity. Knowledge is an intangible asset, and is produced, tracked, managed, and accounted for in innovation systems. Yet what remains unclear, and this is problematic, are the respective roles of knowledge and intellectual property management, their relation, and the potential of a broadened perspective on knowledge flows in innovation. Participants at a Canada-UK workshop in Edinburgh examined the relationship between intellectual property rights and knowledge management by framing innovation in terms of knowledge management while attempting to bracket off the effects of patenting—the ‘Un-IP’ approach. Eight critical issues arising at the heart of knowledge management and intellectual property rights were articulated, and general consensus emerged that, conceptually speaking, intellectual property rights needed to be subsumed under knowledge management as a particular class of intangible asset. At the same time, however, practical issues associated with patents continued to dominate the discussion, causing deviation away from the primary theme of the workshop, and highlighting the need to more fully explore eight emerging themes and contextualise the role of intellectual property rights.


Knowledge is a valuable and strategic asset that affects how firms and organizations innovate and compete in the global marketplace. This study investigates how innovative firms and organizations produce and accumulate scientific knowledge under uncertain intellectual property right (IPR) conditions, across different levels of intellectual property uncertainty, and when they operate or develop scientific innovations in weak IPR institutions such as China. Developing a novel panel data that covers more than 400 unique life sciences firms and organizations based on the population of 4,270 USPTO issued patents in genomics matched to 1,279 papers from 1988 to 2005, a reduction was found in patent enforcement uncertainty and market value uncertainty, facilitated by the granting of the paired patent over its corresponding scientific knowledge, work in concert to negatively impact (by over 20%) scientific knowledge generation and accumulation within the firm. The decline in annual organization self-citations reflects a reallocation of scientists and scientific resources to alternative knowledge projects, and is most salient for firms operating and developing their scientific innovations in countries with strong IPR institution, for large and established IPO firms and for private firms than public institutes. These findings have significant strategic and management implications for innovative firms and organizations that engage in knowledge-intensive activities and operate across national and geographic boundaries, especially in terms of the dynamic trade-off they have to make between short-term exploitation of firm's existing knowledge base and future exploration into important (but yet unrealized) external areas of research and market for ideas.


One way of assessing the business value of an invention is to consider the patent’s role in the
company’s overall innovation strategy. A study of over 100 companies’ patent portfolios and practices revealed that the structure of successful patent portfolios is closely connected to particular innovation strategies. Best practices to manage innovation and create intellectual property vary by time-to-prototype and time-to-market; unsurprisingly, practices for managing and leveraging IP vary along the same axes. The matrix of factors created by overlaying IP attributes on innovation strategies can be used by company patent committees and R&D managers to guide decisions about whether, how, and where to protect new technologies.


This paper aims to examine the effect of national culture on the capacity of small and medium-sized biotechnology enterprises to protect their intellectual assets by analysing the mediator role of environmental scanning behaviour. The extent to which environmental scanning behaviour helps firms to protect their intellectual assets is investigated, and the effects of national cultural values on environmental scanning behaviour are analysed. The hypotheses are tested with survey data from 123 biotechnology SMEs located in 14 countries. Environmental scanning appears to be an important step in the intellectual property strategy, as it enhances the firm’s capacity to protect its intellectual assets. Nevertheless, the results show that firms located in cultures with high uncertainty avoidance, high power distance and low individualism do more scanning, whereas the capacity to protect intellectual assets is perceived as being more important in firms located in cultures with low uncertainty avoidance, low power distance and high individualism. Certain limitations should be noted. For instance, the research is based on cross-sectional data, which provide limited insight into the temporal aspects of dynamic environments. The study has important implications for practitioners. It demonstrates that, in international working relationships, cultural values have a direct effect on environmental scanning behaviour, and hence an indirect effect on intellectual property (IP) protection capability. Given the strategic importance of scanning and IP for innovative firms, the results could help managers to make strategic decisions, specifically in R&D internationalization through decentralization or partnership. Although few studies have empirically analysed the role of environmental scanning in a particular domain, such as intellectual property strategic management, or adopted a comparative cross-cultural design to do so, this paper investigates the role of environmental scanning in intellectual property strategy from a cross-cultural perspective.

OECD studies on SMEs and entrepreneurship SMEs, entrepreneurship and innovation, OECD Industry, Services & Trade, 2010 (7) (2010) i-228.

Welcome to the entrepreneurial economy: small firms are playing an ever-increasing role in innovation, driven by changes in technologies and markets. Whilst some spin-offs and high growth firms are having remarkable success, however, the broad bulk of small firms are not capitalizing on their advantages. This book explores how government policy can boost innovation by improving the environment for entrepreneurship and small firm development and increasing the innovative capacities of enterprises. Policy findings and recommendations are presented in three key areas: embedding firms in knowledge flows; developing entrepreneurship skills; and social entrepreneurship. In addition, country notes present statistics and policy data on SMEs, entrepreneurship and innovation for 40 economies, including OECD countries, Brazil, China, Estonia, Indonesia, Israel, the Russian Federation, Slovenia and South Africa.


Numerous studies predict that developing countries with low human capital may not benefit from the strengthening of intellectual property rights. The authors extend an influential theoretical framework to highlight the role of intellectual property rights in the process of innovation and structural change. The resulting theory is consistent with a stylized fact that appears in the data, namely that countries with poor intellectual-property protection may accumulate human capital without a corresponding increase in research and development investment as a share of national income. The model predicts that without minimum intellectual-property protection, additional
education may result in more imitation rather than innovation. The preponderance of the econometric evidence presented in this paper suggests that interactions between human capital and intellectual property rights determine global patterns of research and development effort, and intellectual property rights tend to raise the effect of education on the incidence of research and development.


The authors analyse licensing contracts between informed innovators and developers exerting profit-increasing effort. Those contracts must simultaneously induce innovators to convey information on the value of their ideas, while inducing developers to exert effort and protecting the innovators’ intellectual property rights. The authors show that the best innovators signal themselves by taking more royalties even if it reduces the developers’ share of returns and their incentives. Moreover, royalties are more likely to be used when property rights are easy to enforce and pre-contractual evidence on innovation quality is hard to produce.


This paper aims to empirically explore the effects of intellectual property (IP) on intellectual capital (IC) and firm performance in Iran. A questionnaire-oriented survey from senior and top managers in the Iranian computer and electronic industry was utilized for regression analysis. The findings indicate that IP significantly influences other dimensions of IC, which consists of human capital (HC), relational capital (RC) and structural capital (SC). The study also provides empirical evidence that gaining firm performance is positively related to these three elements of IC. First, more advanced statistical techniques with a larger number of respondents could be used to evaluate the regression equations. Second, the companies chosen for the study are from two specific and fairly similar industries in Iran. Thus, the results may not be applicable to other industries in different countries. With a broad view on IP that considers its creation, protection and utilization too, IP has a central role in knowledge-based organizations to enhance competitive advantage. This study builds on and extends the research made by Bollen to link IP and IC to company performance. The paper focuses on the effects of IP on other parts of IC.


Critical appraisals of the current and potential benefits from developing country engagement in the World Trade Organization (WTO) focus mainly on the Doha Round of negotiations. This paper examines developing country participation in the WTO dispute settlement system to enforce foreign market access rights already negotiated in earlier multilateral rounds. The dispute data from 1995 through 2008 reveal three notable trends: developing countries’ sustained rate of self-enforcement actions despite declining use of the Dispute Settlement Understanding (DSU) by developed countries, developing countries’ increased use of the DSU to self-enforce their access to the markets of developing as well as developed country markets, and the prevalence of disputes targeting highly observable causes of lost foreign market access, such as antidumping, countervailing duties, and safeguards. The paper also examines potential impacts of the Advisory Centre on WTO Law (ACWL) into the WTO system in 2001. A close look at the data reveals evidence on at least three channels through which the ACWL may be enhancing developing countries’ ability to self-enforce foreign market access: increased initiation of sole-complainant cases, more extensive pursuit of the DSU legal process for any given case, and initiation of disputes over smaller values of lost trade.


The Agreement on Trade-Related Aspects of Intellectual Property Rights negotiated in 1986 under the auspices of the General Agreement on Tariffs and Trade, the institutional predecessor of the World Trade Organization, incorporated substantial and uniform protections of intellectual property rights into
the international trade system. A large body of contemporary academic literature suggests that intellectual property rights on socially valuable goods such as essential medicines give rise to a number of ethical problems. This review paper seeks to give an overview of these problems. Moreover, it offers an outline and discussion of a number of proposals as to how these problems might be alleviated. The paper is primarily descriptive in character. This means that although a personal perspective is sometimes offered, the primary ambition of the paper is not to argue for, and defend, a particular solution to the issues discussed. The aim is rather to highlight, explain and put into perspective a number of important arguments in the debate on the ethical nature.


The Intellectual Property Rights (IPRs) regime has brought about a new set of interests, meanings, values, norms, etc. that have a potential to influence the practices of the scientific community in India. The research community in plant molecular biology, which is no exception to this, seems to be increasingly influenced by considerations of the potential of research for attaining patents. In the light of this, we attempt to capture the emerging institutional framework of scientific research that is contingent upon the protocols of the IPRs and changing scientific practices. Particular attention is paid to the views of scientists in India engaged in research in plant molecular biology on genetic engineering, agro-climatic specificities (as well as transgenics) and the changing relationship between scientists and boundary organisations. This new regime is marked by the advent of the customer-funder-policymaker nexus as a prominent element in science forcing the plant molecular biologists to (re-) negotiate scientific boundaries. The commodification of scientific research alters the idealized identities of science and scientific community. The disciplines that can contribute to map different dimensions of the problem should collaborate to identify a shared perspective and suggest workable or deliverable solutions.


No natural rights theory justifies strong intellectual property rights. More specifically, no theory within the entire domain of natural rights thinking - encompassing classical liberalism, libertarianism and left-libertarianism, in all their innumerable variants - coherently supports strengthening current intellectual property rights. Despite their many important differences, all these natural rights theories endorse some set of members of a common family of basic ethical precepts. These commitments include non-interference, fairness, non-worsening, consistency, universalisability, prior consent, self-ownership, self-governance, and the establishment of zones of autonomy. Such commitments have clear applications pertaining to the use and ownership of created ideas. The author argues that each of these commitments require intellectual property rights to be substantially limited in scope, strength and duration. In this way the core mechanisms of natural rights thinking ensure a robust public domain and categorically rule out strong intellectual property rights.


In the late 1970s, 3D printing started to become established as a manufacturing technology. Thirty years on the cost of 3D printing machines is falling to the point where private individuals in the developed world may easily own them. They allow anyone to print complicated engineering parts entirely automatically from design files that it is straightforward to share over the Internet. However, although the widespread use of 3D printers may well have both economic and environmental advantages over conventional methods of manufacturing and distributing goods, there may be concerns that such use could be constrained by the operation of intellectual property (IP) law. This paper examines existing IP legislation and case law in the contexts of the possible wide take-up of this technology by both small firms and private individuals. It splits this examination into five areas: Copyright, design protection, patents, trademarks, and passing off. Reassuringly, and perhaps surprisingly, it is concluded that – within the UK at least - private 3D printer owners making items for personal use and not
for gain are exempt from the vast majority of IP constraints, and that commercial users, though more restricted, are less so than might be imagined.


One of the evolving issues that have stimulated a real debate among WTO members is the reform of third party rights. The aim of this study is to analyse the importance of such rights for developing counties, showing how exercising them more widely could give developing counties a real insight into the functioning of the DSM and allow them to familiarize themselves with the system. However, third party rights are often unclear and sometimes confusing; hence, proposals for reform of third party rights in both the panel/AB processes will be evaluated with particular reference to developing countries.


Most of the previous studies on the trade effects of intellectual property rights (IPR) protection have been from the perspective of major industrialized nations. However, much of the current debate on the effects of IPR protection involves large developing countries. This study contributes to the literature by analysing the impact of stronger IPR laws in China on its bilateral trade flows. We estimate the effects of IPR protection on China’s imports at the aggregate and detailed product categories for both developed and developing countries. The empirical results suggest that increased IPR protection stimulates China’s imports, particularly for knowledge-intensive products.


This paper develops a model of North–South trade with multinational firms and economic growth in order to analyse formally the effects of stronger intellectual property rights (IPR) protection in developing countries. In the model, Northern firms invent new higher-quality products, multinational firms transfer manufacturing operations to the South and the Southern firms imitate products produced by multinational firms. It is shown that stronger IPR protection in the South (i.e., the adoption and implementation of the TRIPS Agreement) leads to a permanent increase in the rate of technology transfer to the South within multinational firms, a permanent increase in R&D employment by Southern affiliates of Northern multinationals, a permanent decrease in the North–South wage gap, and a temporary increase in the Northern innovation rate.


Intellectual property rights (IPRs) and the transfer of low carbon technologies to developing countries have been the focus of sustained disagreement between many developed and developing country parties to the United Nations Framework Convention on Climate Change (UNFCCC). The authors argue that this disagreement stems from two conflicting political discourses of economic development and low carbon technology diffusion which tend to underpin developing and developed countries’ respective motivations for becoming party to the Convention. The authors illustrate the policy implications of these discourses by examining empirical evidence on IPRs and low carbon technology transfer and highlight how the two discourses are based on an incomplete understanding of the role of technological capacity in either economic development or technology diffusion. This has important implication for the success of post-2012 international climate agreements.


The business potential of polymer solar cells is reviewed and the market opportunities analysed on the basis of the currently reported and projected performance and manufacturing cost of polymer solar cells. Possible new market areas are identified and described. An overview of the present patent and
intellectual property situation is also given and a patent map of polymer solar cells is drawn in a European context. It is found that the business potential of polymer solar cells is large when taking the projections for future performance into account while the currently available performance and manufacturing cost leaves little room for competition on the thin film photovoltaic market. However, polymer solar cells do enable the competitive manufacture of low cost niche products and is viewed as financially viable in its currently available form in a large volume approximation. Finally, it is found that the polymer solar cell technology is very poorly protected in Europe with the central patents being valid in only France, Germany, the Netherlands and the United Kingdom. Several countries with a large potential for PV such as Portugal and Greece are completely open and have apparently no relevant patents. This is viewed as a great advantage for the possible commercialization of polymer solar cells in a European setting as the competition for the market will be based on the manufacturing performance rather than domination by a few patent stakeholders.

**Copyrights, commercial needs and humanitarian benefits: Must there be a conflict?**

By far the best proof is experience,’ wrote Francis Bacon. Given the experience of countries—both developing and developed—that have used intellectual property (IP), IP protection and IP management to stimulate innovation, there is ample proof that good IP management has benefited multitudes of people around the world with new technologies, products and services. Innovations in health and agriculture have greatly enriched lives. But does this experience apply to all countries? If the best proof is experience, then what can be said authoritatively about the effects of using IP systems wisely in developing countries?

**How to measure innovation? New evidence of the technology-growth linkage**


It is an undoubtful fact that economic growth depends, ultima ratio, on the production of new ideas. This article aims to contribute to the long-standing debate on the choice of the best proxy to measure innovation and technological diffusion, by offering alternative variables which are tested empirically by means of a panel dataset of 73 countries between 1980 and 2005. Two different proxies of technological progress (patents and intellectual property rights index) are used to explain different growth rates of income per capita and, after controlling for endogeneity, the results suggest that both have a positive effect on innovation (and economic growth).

**Unfettered consumer access to affordable therapies in the post-TRIPS era: A dead-end journey for patients? Kenya and India case studies.**


Increasing access to essential medicines has become an international priority, given the rapid spread of intractable diseases such as HIV/AIDS, tuberculosis and malaria. It follows that the quests to improve the global quality of healthcare and achieve health equity present a challenge for many countries, especially those that have been hard hit by deadly pandemics and whose populations are also still without essential drugs. Consequently, many countries have stepped up efforts to remove the obstacles to the availability and affordability of essential medicines. The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) contains flexibilities that can be used as tools for enhancing access to cheap medicines and for controlling drug pricing. However, these flexibilities are not necessarily a panacea and cannot singly solve the problem of limited access to essential medicines. Put differently, cheaper medicines cannot reach the poor without the infrastructure to deliver them. For this to become a reality, commitment on the part of the member countries to adopt comprehensive and cooperative measures to tackle the burdensome barriers that limit access to critical medicines is needed. It is only then that the flexibilities in TRIPS can be optimized and a real difference made in the lives of poor patients across the developing world.

**Accounting for IP?**


Accounting constitutes a very specific form of language. Unlike literature or political language, the language of accounting is highly standardized, mathematical in nature and seeks to uniformly and systematically describe events while avoiding expressions of individual creativity or explicit political positions. It is a highly formalized vernacular that documents past performance rather than
expectations of the future, preferring the past tense over the future tense. It is a utilitarian language, only employed to achieve specific purposes and document certain contexts. Accounting does not just simply map business, or objectively mirror an existing, pre-defined business context; rather it creates that business context by offering a complex system of representation. In this sense accounting is a social, cultural and historical artifact rather than a natural or technical phenomenon and it can therefore be viewed as the decisive instrument to create and maintain imagined business communities.

On the balance sheet IP experiences a specific form of authorization. Life is brought to IP by providing a system of stable semiotic orders and discursive selectivity that serve a specific reproduction of complex socio-economic orders. IP is represented in the discourse of accounting by ‘intangibles’, an imprecise term associated with the increasingly observed ‘gap between the market and book value’. For a discourse analyst the phrase ‘closing the gap between the market and the book value’ in and by itself reveals that current accounting systems are to a large extent determined by a tangible assets’ based perspective and offer little Accounting may thus be seen as a gate keeper of the status quo that poses significant challenges for IP rich companies, which are confronted with the challenge to either communicate around the lingua franca of accounting or accept that under current accounting statements they cannot adequately document how IP relates to their business performance.


Green products are red hot, but defining what ‘green’ means is difficult. Consumers are faced with an array of labels denoting products as ‘green,’ making it difficult to determine which are truly ‘green’ and which are ‘green-washed.’ The Trademark Trial and Appeal Board recently determined that the term ‘green’ is generic, meaning anything ‘environmentally friendly.’

The FTC has been criticized for causing consumer confusion over its failure to enforce its ‘Green Guides’ governing environmental product claims and certifications. These ‘Green Guides,’ which do not define ‘green,’ were first promulgated by the FTC in 1992, but have not been updated since 1998. In the face of this criticism, the FTC has sought comment with the aim of amending the ‘Green Guides’ to adapt to the fast growing ‘green’ marketplace. While the FTC has exercised a leading role in addressing environmental product claims, intellectual property enforcement and environmental policy must be coordinated. The Intellectual Property Enforcement Coordinator must facilitate this coordination of ‘green’ IP enforcement by consulting non-traditional IP entities such as the EPA and members of the private ‘green’ industry to develop a consensus about what it means to be ‘green.’


Intellectual property policy requires balance between the goal of motivating innovation and the need to prevent that motivation from stifling further innovation. The constitutional grant of congressional power to motivate innovation by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries is qualified by the requirement that congressional enactments under the Intellectual Property Clause promote progress. The Supreme Court has already recognized a time-shifting exception to the intellectual property rights of innovators and lower courts have recognized a place-shifting exception. It is now the time and place for a general technology-shifting exception which would allow consumers to shift their media libraries from one format to another without violating intellectual property law.

This article begins with a brief history of the intellectual property clause, congressional implementation of the clause, and judicial responses. It then summarizes the role of early adopters in promoting progress and argues that while Congress has broad discretion in balancing promoting progress with securing authors and inventors exclusive rights, protection of the early adopters’ role is constitutionally required. Next, it illustrates how securing a right of technology-shifting (transferring patented or copyrighted works from an older, obsolete, technology to a new technology) satisfies the requirement of promoting progress and fits within the historical model. Finally, it proposes both statutory and judicial steps toward protection of this right.
Patents


Knowledge-based firms seeking competitive advantage often draw on the public knowledge stream – ideas embedded in public commons institutions – as the foundation for private knowledge – ideas firms protect through private intellectual property (IP) institutions. What are the implications of such strategies for long-run public knowledge production? The authors examined this question in human genetics, where policymakers debate this issue following dramatic expansion of IP ownership over the human genome. The gene patent grant decreases the long-run production of public genetic knowledge, with broader patent scope, private-sector ownership, complexity of the patent landscape, and the gene’s commercial relevance exacerbating the effect.

Do shorter product cycles induce patent thickets? Beschorner Patrick F.e., http://www2.druid.dk.

The traditional argument that shorter product cycles favor trade secret over patenting is reviewed. A game theoretic model provides an argument that shorter product cycles can induce firms to file more patent applications. The firms may be trapped in a prisoners’ dilemma where all firms would jointly prefer to patent less and to not have a patent thicket. If firms start applying for patents on technologies which are not yet mature in order to cover ideas that may eventually turn successful, this may create a patent thicket. The transition into a situation where firms start patenting many ideas instead of single mature technologies is initiated and accelerated when network effects are present or patents exhibit a blocking property.


Judgments since the 1980s have confirmed that living things may be claimed in patent applications, albeit with some divergence between jurisdictions. To a large extent, such extension of the scope of patents has followed analogically from the patenting of hormones and antibiotics. The question arises of whether the analogies deployed and resultant subject matter expansionism can be justified given the current state of our knowledge of life and of highly complex living processes.

Fundamental difficulties exist in the patenting of whole life forms. These difficulties are made evident in scientific, philosophical, and theological discussion concerning the appearance of design in life and the special qualities all life forms share that differentiate them from non-living chemical compositions. Such discussion indicates that life is inherently more complex than any human artefact, and continues not to be well understood. Discussion also points to the autonomy and extraordinary self-creativity of life forms which again suggests that inventorship claims to whole organisms may not be scientifically justifiable at present. It may be time to rethink the metaphors and analogies used to justify the patenting of whole organisms. Living things are not just chemicals or machines, and are certainly not human artefacts.


After the introduction is discussed the European Patent Convention (EPC) provisions that are relevant to the exclusion from patentability of computer programs and the broader relevance of the fact that the European Patent Office’s (EPO’s) Enlarged Board of Appeal has recently been requested by the EPO President to interpret these provisions. Next, we comment on the relevance of the recent EPC revision, before addressing what a computer program must be taken to mean for the purposes of the exclusion from patentability. After drawing attention to the conflict in case law that has developed in relation to the patentability of the computer programs and briefly summarizing the different approaches the EPO has taken to Article 52 of the EPC, the authors explain the evolution of these approaches, with particular attention to the EPO’s dominant ‘technical character’ approach. Subsequently, are addressed the questions put to the Enlarged Board and how they might be answered. The authors set out their proposal for what they believe is the approach the Enlarged Board should adopt. Since this approach might have effects beyond the field of computer programs, they show that the EPO case law outside computer programs...
would not be altered by their approach. Two alternative approaches are then critically addressed before setting out the conclusion.


The prevalence of allergic diseases has increased dramatically in recent decades. Therefore, there is a pressing need for the development of effective anti-allergic services worldwide. However, little is known what anti-allergic products have been patented in China and what the potential drug candidates for patents are in China. This paper analyses the patents of anti-allergic products for the last 20 years to help pharmaceutical companies and individuals to understand the potential candidates for anti-allergic patents in China after obtaining the data from the People's Republic of China Country Intellectual Property Rights Bureau website and United States Patent and Trademark Office website. A total of 789 anti-allergic patents have been granted in China during the past 20 years, which all focused on synthetic compounds, traditional Chinese medicines (TCM), combinations of synthetic compounds and TCM, biological products and medical apparatus. It appears that more and more effective therapeutic components of TCM rather than whole herbs have been patented in recent years and alteration of natural molecules to produce more therapeutically effective molecules has emerged as a novel trend for the modernization of TCM. The patents on synthetic anti-allergic compounds in China mainly focus on well-known targets, such as histamine receptor and leukotrienes, which consist of 93% of patents for validated targets. The number of anti-allergic patents applied in China is far lower than that in the US. Therefore, there are great opportunities for obtaining anti-allergic patents, particularly patents on active ingredients from TCM in China.


The Patent Prosecution Highway (PPH) is one of the latest devices for accelerating prosecution and eventually grant in participating countries. A major advantage of the PPH is that it does not require any major (or even minor!) changes to existing patent laws, and can be operated within the realms of existing legislation. The PPH can exist as an added fixture to the patent regime of virtually any country. The PPH between the US Patent and Trademark Office (USPTO) and Intellectual Property Office of Singapore (IPOS) heralds a new chapter in the Development of Singapore patent law. Applicants with a first filing in Singapore can now request accelerated examination of their corresponding second filing in the USA, and applicants with a first filing in the USA can accelerate prosecution of their second filing in Singapore. The purpose of the PPH is to share search and examination results of corresponding applications between the two offices in order to allow patent applicants in the two countries to ‘jump the queue’. Applicants with corresponding filings in the USA and Singapore can use the PPH to their advantage.


In the first litigation case regarding the interpretation of the Biopatent Directive 98/44/EC, the European Court of Justice is asked to clarify whether a DNA sequence is entitled to patent protection as a compound as such, or only under circumstances where the DNA performs its function. Advocate General Mengozzi issued an opinion concluding, ‘that the protection for a patent relating to a DNA sequence is limited to the situations in which the genetic information is currently performing the functions described in the patent’, thereby arguing for both a purpose-bound and time-limited scope of protection. In his view, the Directive constitutes an exhaustive body of rules and precludes national legislation from conferring wider protection. This interpretation finds no base in the legislative history of the Directive, which was intended to extend but not to limit protection for biotech inventions.

A ruling following the opinion would have severe consequences for EU biotechnology patent holder. Not only isolated DNA will become unprotected, a patentee would also lose rights against the importation of harvested goods produced outside the EU without his authorization.

It is well established that naturally occurring matter and intangibles such as algorithms are generally not patentable. Encoded electromagnetic (‘EM’) signals designed and manufactured by human beings, however, are not natural objects and should be patent-eligible subject matter. Unfortunately, there seems to be a misconception that such signals are “unusual,” transient, intangible non-entities (non particles). Because of that misconception, EM signals have been held to be unpatentable. To the contrary, such signals can in fact be identified by humans and one skilled in the art can determine their longevity and tangibility precisely – i.e., to a scientist, the object is intransient enough to be tangible. Also, to a modern physicist, these signals are particles that exert pressure and constitute matter. As such, novel man-made encoded EM signals are inventions that should satisfy the requirements to be patentable subject matter.


The law of indirect patent infringement is evolving quickly across the various jurisdictions in Europe. The member states of the European Union have similar provisions in their law relating to thing matter by reason of the Community Patent Convention despite the fact it never came into effect.

This article provides a review of the jurisprudence relating to indirect infringement in Europe, with particular emphasis on the law of the United Kingdom. It seeks to provide guidance on the law will develop by comparing the approaches of the Courts in the various Member States. The law in this area is little explored and there have been a number of recent decisions which are little discussed elsewhere.

A prosecution bar in patent litigation should be the exception rather than the rule, Juo James and Pitman David J, *Virginia Journal of Law and Technology*, 15 (1) (Spring 2010).

A litigant in patent litigation may seek a protective order containing a 'prosecution bar' that prohibits attorneys who receive a disclosing party’s confidential information from prosecuting patent applications on behalf of the receiving party. When applying the Federal Circuit’s ‘competitive decision making’ analysis in the context of patent litigation, some district courts have found that patent prosecution is an inherently competitive activity, while others have disagreed and required a particularized showing beyond mere involvement in patent prosecution. A close reading of the case law will show that patent prosecution by itself should not amount to competitive decision making. In any event, where a prosecution bar is to be imposed in a protective order, the type of information that would trigger a prosecution bar, and the duration of any such bar, should be narrowly defined and tailored to the specific facts of the case rather than on generalities.


Planet earth is host to a dazzling variety of living organisms. This diversity of life, or ‘biodiversity,’ is vital to the survival and prosperity of humanity, supplying such vital amenities as food, clothing, shelter, natural biochemicals useful in medicine, industry, and agriculture, and even irreplaceable ecosystem services, such as clean air and water. Despite the prodigious amount of biodiversity on earth, human activities have been depleting it at an accelerating rate that has now reached the level of a mass extinction event. The five greatest threats to biodiversity can be summarized by the ‘HIPPO’ acronym: (1) Habitat loss, (2) Invasives, (3) Pollution, (4) Population, and (5) Overexploitation. Together, these five factors describe the phenomena largely responsible for the current mass extinction event, and patent law offers valuable assistance in combating each one. Though it cannot offer a complete solution to the biodiversity crisis, the patent system can offer powerful tools to help save biodiversity. On first inspection, patent law might appear an unlikely ally for conserving biodiversity for at least two reasons. First, beyond bioprospecting, patents would seem only tangentially relevant to biodiversity loss. Second, as a tool for promoting economic growth, the patent system might be viewed as contributing to biodiversity loss by those who assume that economic growth and environmental protection are mutually antithetical. However, patents can indeed benefit biodiversity. This article illustrates how patents can combat each of the major threats to biodiversity that constitute the HIPPO acronym. By creating an
extinction bar to patentability, patents create incentives for bioprospectors, biopharmaceutical firms, and countries that host abundant biodiversity to prevent habitat destruction. Sovereign immunity provides the federal and state governments with the right to make use of patented inventions useful for countering invasives. Existing compulsory licensing schemes provide models for how patented pollution abatement technologies could be widely disseminated to combat pollution. The incentives created by the patent system can help to create more efficient new technologies capable of counteracting the damage inflicted on biodiversity by human population growth. Finally, the patent system has already proved itself adept at spurring the creation of ingenious inventions capable of alleviating overexploitation of biodiversity. Though far from a panacea, the patent system does have important roles to play in ameliorating the biodiversity crisis.


Despite over 20 years of debate, the TRIPS Agreement remains very contentious. This paper evaluates the impact of strengthening patent rights (PRs) in developing countries on developed countries' exports over the 1962–2000 period. Colonial origin is used to isolate exogenous variation in PRs. The impact is then identified by examining the cross-industry difference in sensitivity to PRs. It is found that the increase in PRs made in response to the TRIPS Agreement added about $35 billion (2000 US dollars) to the value of developed countries' patent-sensitive exports into 18 developing countries. This amount is equivalent to an 8.6% increase in these developing countries' annual value of patent-sensitive imports. The increase in the value of exports was driven by a quantity, rather than a price, increase.


Research productivity measured using patent-based indexes is a useful measure of the effectiveness of scientists’ efforts to produce useful knowledge. In this paper, a theoretical framework and a method based on patent analysis are proposed to understand determinants of research productivity. The framework assumes that research productivity is dependent on the knowledge search behaviour pursued by scientists. Three dimensions of search are taken in account: search type, search focus and search dynamics. Using data relative to 873 biotechnology patents granted from 1960 to 2007 to 255 academic scholars that are affiliated to 36 Italian universities, this paper investigates if university research productivity is positively affected by particular knowledge search behaviours pursued by its academic staff. Indexes to qualify knowledge search are built and measured. Two different profiles of knowledge search behaviours were clearly identified, one associated to high-research productivity and the other to low research productivity.


This article briefly explains the reach of a process patent. It then examines how the International Trade Commission operates and discusses its similarities and differences as compared to patent litigation in the federal courts. It then discusses how disputes involving process patents have historically been treated by the federal courts and the International Trade Commission. The Commission’s recent decision in *In re Certain Sucralose* is examined and its holding analysed to determine how it will likely shape future investigations. Finally, the author suggests how Congress should act to clarify the Commission’s jurisdiction as it relates to process patents and how Congress should amend the Patent Act to address its applicability to process patents.


In *KSR International Co v Teleflex Inc*, the Supreme Court rejected the Federal Circuit's rigid application of the teaching, suggestion, or motivation test (TSM test), and replaced it with an expansive and flexible approach, in determining the question of obviousness. Nevertheless, an expansive and flexible approach to obviousness may not be consistent with
the international norms of practice if it is applied literally. The US Patent and Trademark Office's literal application of the decision has essentially created another set of inflexible rules, which is contrary to the Supreme Court's intent.

The Federal Circuit's recent decision in *In re Kubin* cautiously revived obvious to try in its obviousness jurisprudence. However, *In re Kubin* may not represent a clear precedent for determining obviousness in the biotechnological context. Certain key technological factual issues were unclear when the court was making its judgment.

Commentators have suggested that a fairly high obviousness threshold coupled with a fairly low disclosure requirement will produce a few very powerful patents in uncertain industries. Nevertheless, lowering the disclosure requirement in the biotechnological context would provide inventors incentives to retain more know-how and thus frustrate the purposes of the existing statutory exemptions, namely the medical practice exemption under 35 U.S.C. § 287(c) and the so-called FDA exemption under 35 U.S.C. § 271(e)(1). Therefore, this Article suggests that the high disclosure requirement for biotechnological patent applications should not be sacrificed as a trade-off for a heightened obviousness standard.

**Is the use of patents promoting the creation of new types of securities?** Fusco Stefania, http://www.chtlj.org.

Has there been a change in the level of innovation of financial methods subsequent to the State Street decision that allowed the award of patents to protect such methods? Ten years following the issuance of State Street, the patentability of business methods is still so controversial that the Federal Circuit has recently considered overruling its own precedent by rehearing *In re Bilski* en banc. The goal of the patent system is to promote innovation. If an increase in the level of innovation of financial methods is not present, the adoption of this form of intellectual property to protect creativity in the industry is unjustified and, potentially, even harmful. Indeed, it is important to ascertain the correct balance between encouraging innovation on the one hand, and leaving enough "raw material" upon which individuals can build new ideas on the other. A first step in accomplishing this objective is to understand whether the patent system is ‘doing its job’ or, in other words, whether the provided protection is actually inducing innovation in a specific industry.

In this article, the author presents an empirical study of innovative types of securities that have emerged over the past 25 years. The author also investigates the patent practice of the financial industry and identifies the patent applications submitted and the patents issued on different types of securities. Finally, the author discusses her findings and concludes that, recently, creators of new types of securities have shown less interest in the patent system. Nevertheless, the rate of innovation in this field has remained constant. At this time, the available data are not sufficient to reach an entirely conclusive determination with respect to whether the patent system has affected the design of new types of securities. However, the results are still of great significance and cast doubts on the soundness of the State Street decision, at least to the extent that it involves the financial industry. By deciding *In re Bilski*, the Federal Circuit now has the opportunity to readdress the issue of the patentability of this subject matter in a way that more closely reflects the goal of the patent system as it is described in the Constitution.


The Federal Circuit’s decision in *In re Bilski* sought to answer once and for all whether, and to what extent, business methods may be patented and to articulate the standard that governs the patentability of all processes. The court’s majority opinion both confirmed that there is no exclusion preventing the patenting of business methods and announced a new ‘machine-or-transformation’ test to analyze patents on processes in all fields. Given the controversy surrounding this decision, it is not surprising that the Supreme Court subsequently granted certiorari. This article first reviews the Federal Circuit’s Bilski decision, including its historical context and its ramifications in defining what may be patented. It then considers the questions facing the Supreme Court by addressing some of the criticisms of the Federal Circuit’s majority decision. Finally, it offers a solution that conforms to Supreme Court precedent and Constitutional requirements.

This article analyses recent developments in antitrust law, focusing on agreements between pharmaceutical patent holders and generic drug manufacturers that require a generic manufacturer to delay its market entry in exchange for a payment or other consideration from the patent holder. A predictable consequence of settlements that delay the marketing of a generic drug is that prices for the patented drug will remain higher than if the generic competitor had prevailed in its challenge to the patent’s validity or the patent holder had failed to show that the generic infringed on its patent. Analysis of the legality of these settlements has huge consequences for drug competition, health care costs, the average American family budget, the law, and public policy.

Copyright and Trademark


When copyright enforcement is targeted at high-value buyers such as corporate and government users, the copyright holder charges super-monopoly prices, thereby encouraging low-value buyers to switch to inferior pirated copies. Enlarging the copyright holder's captive market through more extensive copyright enforcement reduces prices towards the monopoly level, increases sales of legitimate copies and can increase consumer surplus. Therefore, in contrast with the case of more intensive copyright enforcement, more extensive copyright enforcement over some range can increase the incentive to generate intellectual property while also reducing the loss to consumers from monopoly power.


First-mover developers of allegedly infringed computer programs sometimes attempt to swamp the copyright analysis of their products in technical detail to enhance the creative mystique of their software and conceal its more mundane, functional and repetitive features, hoping that expert technical evidence put before the court on their behalf might not be judicially understood, let alone be intelligently dissected. Judges, displaying a refreshing willingness to peer behind the digital screen have recently demonstrated independently of each other in Australia, the United Kingdom and the United States that they are more than willing to subject computer programs to the same kind of analysis as traditional copyright works. By reasserting core copyright principles of idea versus expression, originality and causative link and rejecting arguments based on atomization, abstraction and aggregation, they have provided clearer guidelines to second comers as to what they may borrow and build on.


On 16 July 2008, the European Commission adopted a vast consultation on the future of copyright in the knowledge economy by means of a Green Paper, with the objective to collect the different points of view of all interested parties ‘on the dissemination of knowledge for research, science and education but also on the current legal framework in the area of copyright and the possibilities it can currently offer to a variety of users (social institutions, museums, search engines, disabled people, teaching establishments)’ (Press release of the European Commission, IP/08/1156). This ambitious document raises many interesting questions regarding the future of copyright limitations and exceptions in the European Union. This article reacts to the Green Paper by proposing a certain number of comments and recommendations addressed to the community legislature.


On what basis may a domestic court exercise jurisdiction over an allegation of infringement of a foreign copyright? In cases involving registered intellectual property rights, patents in particular, the
European Court of Justice has confirmed that the exclusive jurisdiction accorded by the (then) Brussels Convention (now Brussels Regulation) to courts of the states in which the relevant registrations exist applies both in cases in which the validity of the registration is contested erga omnes and where lack of validity is raised as an inter-partes defence. The rule also appears to inhibit consolidation of proceedings involving different foreign patents. Because the existence of a copyright is not conditioned on its registration however, allegations of infringement of rights arising under foreign copyright laws should not necessarily founder on the exclusive-jurisdiction rules that apply to patents. Assessing the validity of a copyright does not, for instance, involve a domestic court in ex post scrutiny of decisions made by a foreign register. Moreover, the Regulation’s exclusive-jurisdiction rules should not necessarily apply beyond the Regulation’s scope—where, for instance, the Regulation does not provide any relevant exclusive-jurisdiction rule, or where all tenable fora are beyond the Regulation’s reach.

Creating an innovation exception? Copyright law as the infrastructure for innovation, Thampapillai Dilan, SCRIPTed, 7(1) (2010)104-134.

Innovation is clearly essential for economic growth, cultural development and personal autonomy. Yet the relationship between innovation and copyright law in Australia is uncertain and perhaps overly restrictive. After the Australia-United States Free Trade Agreement Australia now has a copyright regime that can broadly be described as a lock up and lock out scheme. Whilst the Australian Government has paid lip service to innovation the Australian Copyright Act, which provides the essential legal infrastructure for innovation, now privileges the rights of owners over the interests of the public. In particular, the Copyright Act neglects to create a specific exception for technology innovation. If there is to be some coherence in Australia thinking with regards to innovation and copyright policy it is crucial that such an exception be created. Arguably, it is possible that such an exception can withstand the scrutiny of the three step test. At present the only ‘exception’ that can be said to exist is in the form of the limits of the authorisation liability or the ISP safe harbour scheme. Australian copyright law needs something more substantial provisions than that and needs for there to be a clear hierarchy between the exceptions and the liability provisions.


The concept of neighbouring rights protection in general and the rights of phonogram producers in particular emerged to protect the rights of those who assist intellectual creators to communicate their message and to disseminate their work to the public at large. Thus it ensures a meaningful reward to producers as the infrastructural and technical contributions are no less than the content of the phonogram.

This article examines the provisions of the Indian Copyright law and the judicial pronouncements so as to evaluate the status of producers of sound recordings in India. The author does the above examination in the context of both the analogue as well as the digital technology. The issue of treating phonogram as a subject different from authorial right category has been raised. This article proposes that the requirement of originality differentiates a phonogram from other ‘works’ under copyright law. It highlights the importance of moral rights for phonogram producers and explores the possibility in the Indian act. The status of phonogram in the digital environment has been examined to explore the possibility of any amendment in the Indian law to face the challenges.


This article discusses how and why the locus of the tensions brought about by new information and communications technology (‘ICT’) in the global inter-networked society have gone beyond territory, sovereignty and law and why this shift changes the focus of the discussion initially from government to governance, and then ultimately to participation. Free and open source software (‘FOSS’) developer communities are used both as case studies and as a critique of existing regulatory approaches to ICT. By showing the profound and sometimes disruptive impact hybrid active subjects like FOSS communities have had on matters relating to regulation, governance and culture, this article explains why there is a need to expand what democracy means and entails in the digital networked environment.

The ubiquitous nature of the Internet and its ability to swiftly and effortlessly transcend national boundaries and sovereign territories has presented a unique challenge for regulators and those expected to obey the law. Modern legislation needs to somehow address the fact that many of the actions and effects within the lawmaker's territory will not actually have physically taken place there. What are the connecting factors used to attribute certain acts and effects to a certain jurisdiction? What are the mechanisms used to afford judiciaries and other national authorities jurisdiction over matters theoretically located in cyberspace? To answer these questions, a look is taken at the law of defamation, the regulation of data protection and privacy and ultimately the law concerning online gambling. Different regulatory frameworks are scrutinized so as to extract common themes. The latter are then compared, contrasted and analysed in the context of their respective policy objectives.


This article shows that despite a vast harmonization programme in the field of copyright and registered design right, the degree of protection of designers in the European Union still differs greatly. This is owed to the lack of harmonization in copyright and unfair competition laws. The article shows that not only is there a difference in the scope of protection between the common law and civil law countries but also between civil law countries. The countries chosen for the comparison are the United Kingdom, France and Italy. The article concentrates on the case law of the last 5 years and concludes that there is a need for further harmonization in the fields of copyright law and unfair competition law, as well as guidance from the European Court of Justice on the test of infringement for registered designs as it has been interpreted very differently in at least two member states.


Is the Design Piracy Prohibition Act a necessary addition to the intellectual property panorama of the United States? American designers and other creative minds do not have any means to protect their innovative design creations because none of the existing intellectual property measures can be tailored to the protection of design rights. To explore this issue, the author goes back to the underlying reasons for prohibiting the trade of counterfeit goods and argues that counterfeiting and design piracy are analytically similar and there is no reason justifying a different legal treatment of these two issues, especially given the close interrelation of these two phenomena. After demonstrating that the current intellectual property measures are inadequate for the protection of design rights, arguments are provided for the need of such protection and include a full analysis of the Design Piracy Prohibition Act. Finally, is compared the Design Piracy Prohibition Act with the European design protection system and argued that much can be gained from looking at the European experience.


Trademark law has evolved extensively over time and is justified today for different reasons than when American law first recognized it. Scholars today question whether trademarks should now be accepted as a form of real property. Two examples of trademark problems in the global economy demonstrate that the time has come for marks to be recognized as property. Whether business entities are entering new territories or consumers are crossing borders to new jurisdictions with greater ease than ever before, trademark must adapt to the demands of modern commercial competitors. This comment takes the position that these demands require treating trademarks as though they are tangible goods. Assuming this proposition is correct, a question arises of exactly how one comes to possess a trademark. What are the actions, conduct, or steps that are
necessary before one can claim a right in a specific trademark? This comment then uniquely applies the theories of famous property philosophers William Blackstone and John Locke to trademarks in order to answer this question. Through analyzing these theories this comment concludes that the realities of our global marketplace demand that Locke’s labor theory reign as the prevailing view of possessing a trademark. However, this comment also acknowledges that Blackstone’s clear-act principle has a role to play where new territories develop, such as virtual worlds like Second Life.


This article analyses the regulation of geographical indications in national and international legal frameworks, and assesses their effectiveness *vis-a-vis* the needs of indigenous people and local communities. The protection and implementation of geographical indications is examined in the light of the cultural and socio-economic aspects of legal and policy debates surrounding the global intellectual property system. Simply understood, geographical indications are signs used in connection with goods to indicate their geographical origin. They emerged on the international scene at the centre of three highly debated subjects: intellectual property, international trade and agricultural policy. This article mainly examines the significance of geographical indications in the protection of traditional knowledge based agricultural products in the international intellectual property framework, and assesses their possible use in domestic legal frameworks. In light of contemporary understanding of the link between ‘development’ and ‘culture,’ it is argued that intellectual property instruments in the likes of geographical indications may properly be used to positively protect the knowledge of indigenous people and local communities in the agricultural sector. It is, however, observed that geographical indications may not be solutions to the vast social, cultural, environmental and economic problems that ensue from the lack of protection of traditional knowledge and, thus, it is suggested that geographical indications are best utilized as part, or independently of a defensive *sui generis* protection of traditional knowledge.

This article provides in-depth analysis of the concerns that arise in implementing geographical indications as legal frameworks to protect traditional knowledge based agricultural products in developing countries. It is hoped that this paper will prompt further discussion, and will serve as a resource for practitioners, academics, policymakers, and others in analyzing, drafting and negotiating intellectual property issues in the realm of international trade, traditional knowledge, and agricultural policy in national and international contexts.