Intellectual Property Law and Innovation

The rules of intellectual property law prevent competitors from imitating the innovative appearance or function of products. However, these rules are not derived from one single source, but are found in copyright law, designs law, patents law, trade secrets law and, when it comes to novel appearance, also in passing off and trade marks law.

Bringing together all these rules of intellectual property in a practical format, *Intellectual Property Law and Innovation* covers the areas of intellectual property law that are most relevant to both product and technological innovation. It surveys intellectual property law relevant to protecting or monopolising novel visual appearance, as well as the novel functions and substantive characteristics of products. It deals with central legal issues relating to copyright in computer programs, as well as in artistic works as relevant to the visual design of products; registered designs law; the equitable action for breach of confidence; patents law; *sui generis* regimes, including plant breeder's rights and the law relating to computer chip layouts; and particular aspects of trade marks law relevant to product appearance. It also examines the role of these different areas of the law from the perspective of innovation, including innovation strategy and public policy. In dealing with the law, the book focusses principally on Australia, but also refers occasionally to the law in other jurisdictions, principally in the English-speaking common law world.

This book places intellectual property law in the broader framework of innovation theory and strategy and will therefore benefit law students, legal practitioners, innovation managers, and all those working in the fields of intellectual property law and innovation management.

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Preface

Innovation is both a central aspect of industry policy and a crucial management issue for individual firms. Governments strive to devise policy settings that encourage innovation in industry; and no individual firm can ignore the innovation imperative in its decision-making. The distinct factors that determine the shape and size of the innovation spend are many and varied, complex in their interaction and challenging to conceptualise. Inventive individuals, firms and institutions are motivated by incentives ranging from the purely personal to the structural, including the competitive imperatives of market dynamics. In industry, a firm's R&D investment decisions are influenced by its perceived ability to capture sufficient returns from innovative products introduced into a competitive market where consumers determine commercial success. By deploying various strategies, individually or in combination, an innovative firm can profit from innovation even in the presence of avid imitators. Many available strategies are practical (for instance keeping an invention secret, or relying on imitation lag), and are considered in the broader innovation management literature. This book focusses on the role of law, ie of reliance on the various rights and remedies of intellectual property law to prevent or limit imitation and increase returns from innovation.

The subsistence, structure, scope and interaction of relevant intellectual property rights impacts on individual decisions to invest in innovation, so they are a significant topic of study and evaluation from the innovation and technology policy perspective. At the same time, they are controversial, in that there is considerable disagreement both in industry and in academe about the real impact on innovation of exclusive legal rights. But the relevant intellectual property (IP) regimes are also an inherently interesting subject matter because they are so closely intertwined with aspects of our broader culture, with its historical emphasis on progress, technological prowess and inventiveness. Innovation is a central theme of our times, and within it IP law plays a significant, if difficult to evaluate role.

The separate treatment of the areas of intellectual property law relevant to innovation in this book also accords with the growing recognition of that subject as a distinct area of study. Innovation policy, technology policy, innovation management and commercialisation of IP are dealt with as coherent and integrated topics for teaching, research and publication in books and journals. Encouraging innovation and using intellectual property law to capitalise on investment in

innovation are topics well rehearsed and frequently addressed in public forums by government bodies, public institutions and private advisers.

This book focusses only on those selected legal regimes that play a role in industrial innovation. This includes IP law relevant both to what is referred to below as *technological* innovation, ie innovation in function, and to what is referred to below as *product* innovation, ie innovation in product appearance. Areas of intellectual property law that are not concerned with useful products and processes, but with topics such as art, literary, dramatic and musical entertainment, thus fall outside the confines of this book. Traditionally the treatment of intellectual property law is divided either into individual 'regimes', or into two parts: *intellectual* property, ie mostly copyright law, and *industrial* property, which comprises designs, patents, trade secrets, trade marks and passing off, as well as minor *sui generis* regimes; in short, the law relevant to industry rather than to arts and entertainment. This book cuts across this division: it does not address industrial property law as a whole, but only those aspects relevant to innovation in industry: trade marks law and passing off, naturally significant to industry, are therefore largely (but not wholly) ignored. But some aspects of copyright law are *included*; in particular, copyright in artistic works, as relevant to the original appearance and manufacturing of new products, and copyright in computer programs as functional processes.

The core regimes relating to the novel *appearance* of products are copyright (although based on the concept of originality rather than novelty) and designs (either by registration or as an 'unregistered design'). Naturally copyright includes far more subject matter than is considered here: although in part relevant to the innovation in product appearance, it mainly concerns other things, related to entertainment (music, theatre, literature) or other forms of communication. In relation to *functional* innovation, the core regime is patents law, although the narrower *sui generis* regimes mentioned above also play a significant role, as does copyright for computer programs. Trade secrets law is also crucially important as a default regime applicable to all forms of innovation.

Intellectual property law relating to innovation consists largely of regimes that are technology-neutral, ie the criteria for protection are abstract and do not identify the subject matter by its concrete technological nature or visual character. Patents law, designs law, copyright and the law of trade secrets all fall within this class, and form the bulk of the subject matter considered in this book. But a few regimes concern only specific and narrow technologies or products: principally plant breeder's rights and computer chip layouts. These are considered in a single chapter (Chapter five), which also covers computer programs. This is because, although strictly speaking no *sui generis* protection regime covers them, with both copyright and patents law playing a role, arguably something *akin* to a *sui generis* regime has been elaborated within copyright law to cope with the special nature of computer programs: they are functional and fundamentally differ from all other copyright subject matter. The theoretical choice between *sui generis* protection and a technology-neutral approach to innovations is a fundamental theoretical

question, and is also addressed in Chapter five. That chapter also includes a brief appraisal of the role of trade marks registration in product innovation, which although limited and merely incidental has generated considerable interest in practice and industry.

The structure and content of intellectual property law is, at one level, a matter of policy, ie it results from public debate that is political in nature. Concrete outcomes, modulated by governments, are influenced by multiple, time-bound and often competing interests. On another level, it is a question both of legal theory, the logical structuring and organisation of legal rules and principles, and of specific application: how given rules of law operate in a particular factual matrix, and evolve in the context of real disputes. Although the latter is a matter more for lawyers than for policy-makers, in fact law and policy in IP are always closely intertwined. Lawyers active in intellectual property tend to be well acquainted with underlying policy debates, much as innovation managers keep a wary eye on legal developments. This book attempts to bridge the gap between the specifics of law and underlying theory and policy questions, something that is now increasingly attempted in the literature. Therefore each chapter covers both aspects of policy and theory and core legal issues, with the intention of informing and challenging that growing but varied body of readers (students, teachers, professionals, policy-makers and managers) with a common interest in innovation policy and law, but who, because of different training and experience, bring varying perspectives to specific issues.

As indicated above, the book covers IP related both to innovation in function and innovation in appearance. The law itself tends to observe this distinction between form and function: if an innovation is in essence functional, patents law is primarily applicable; if in essence related to appearance, then copyright and/or designs law applies. Nonetheless, some hybrid forms of protection exist: for instance, computer programs as functional products are protected by copyright as well as by patents. In truth the division between form and function is in any case conceptually tenuous, because products that are novel in appearance often also provide some functional advantage, and vice versa. Nonetheless the law requires the pigeonholing of every innovation, or innovative aspect, in a specific regime, so as to generate a remedy (or remedies: sometimes several areas of law will apply in relation to one product or process). A significant issue, addressed in this book, is thus identifying which legal regimes are relevant to a certain product or process, and also how the various regimes interrelate and sometimes offer cumulative or alternative legal protection. Products also do not necessarily match rights, in that different aspects of a single product may attract the grant of multiple and distinct rights, possibly held by different owners, and often of a different nature (thus rather than having 'one product one patent' a single product may attract patent, design and copyright protection in its different aspects). This requires looking at an innovative product with an informed eye, which can recognise legally relevant categories: for instance, a personal computer (PC) is not a category of subject matter as such in any Act; but its novel

appearance (eg an unusual shape), its new functionality (eg exceptional speed) and its characteristic user interface may each fall within the scope of protection of one or another regime (designs, patents and copyright respectively in this case). These questions of the interrelationship between regimes are an important theme running through this book, both from a practical perspective, but also from the angle of policy and theory.

Apart from its specific focus on innovation and IP, other choices have shaped this book. Consideration of substantive issues rather than procedural and formal matters lies at its heart. For instance, the book features no detailed discussion of the application process for patents, but contains a substantial discussion of what can and cannot be patented, what novelty really means, who owns an invention, etc. The underlying intention is also to cut through to core questions interesting the majority of readers, rather than providing comprehensive detail on the latest decisions concerning every narrow legal question which may happen to arise; therefore the number of case references is limited. The reading list provides one way of discovering more about specific areas of interest; in other cases only a detailed analysis of the law will provide a satisfactory answer – either by accessing other monographs on intellectual property, of which there are now many, mostly current, in which up-to-date case references can be found; or by seeking the advice of professionals with the necessary skills! The book is also mostly limited to Australian law, although it occasionally refers to other jurisdictions, because that provides informative contrasts between local and foreign solutions. Although there is much harmony between national regimes now compared to the past, there are also still many areas of sometimes striking difference.

Some reasons for writing this book are given above; but most importantly it is a vehicle for sharing ideas and insights with the increasing number of students and professionals both within the law, within management and within the innovation policy disciplines who are equally fascinated with all aspects of the complex process of technological innovation and change. The text condenses and brings together the results of research conducted over a number of years, which has in part found its way into some previously published articles. But it does not pretend to provide definitive answers or final conclusions: for that the diversity of well-reasoned opinion in the literature is far too great. A chapter-based bibliography provide both reference detail about sources of information and inspiration, and starting points for further reading. The lists are not intended to be comprehensive, but include such articles and works as I have found particularly informative or interesting, either because of clarity of exposition or innovativeness of ideas. The scholarly output concerning relevant aspects of innovation policy is in fact vast; some of it is too mathematical for most lawyers and others not trained in economics, but much of it is quite accessible. Some is specifically directed at legal issues, while other literature, though principally engaged with technology policy, also has relevance for intellectual property lawyers. As will become apparent from perusal of the reading lists, certain journals tend to publish exactly the kind of articles that lawyers, managers and policy-makers interested in innovation policy

are concerned with, and in an accessible form. They amply reward regular review, as does the output of some recently established Australian research institutions, principally the Intellectual Property Research Institute Australia (IPRIA) at the University of Melbourne and the Australian Centre for Intellectual Property in Agriculture (ACIPA).

This book originated in the idea that with the exponential growth of the subject matter a series of distinct works on sub-categories of intellectual property law was warranted. Dividing the subject matter into IP and innovation, IP and entertainment, and IP and reputation seemed like a logical approach. The process of first developing the concept and then structuring the book began quite a while ago. Jill Henry of CUP was interested, supportive and patient throughout, for which I am most grateful. I have also benefited from the encouragement and support of many colleagues, who gave me the opportunity to air and discuss my thoughts and publish ideas in past years. In particular Ulf Petrusson of the University of Gothenburg inspired me with his passion for the subject. Always encouraging and willing to discuss, Peter Drahos of ANU was an example of academic rigour and a source of relevant leads, as was Peter Hall of UNSW/ADFA. Pierre-Yves Gautier's words of encouragement spurred me on at a few critical moments. I am also grateful to Dean Duncan Bentley of the Bond Law Faculty for his continual support, and my other colleagues there for their cheerful willingness to listen to my accounts of progress (or lack thereof). My thanks also to an anonymous reviewer who provided useful comments. My family also has been patient and a wonderful relief and support whenever required. My research assistant Rachel Norden, whose work was funded by a Faculty Research Grant, also made an excellent contribution.

William van Caenegem
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List of acronyms

3D – Three Dimensional
ABS – Australian Bureau of Statistics
ACCC – Australian Competition and Consumer Commission
ACIP – Advisory Council on Intellectual Property
ALRC – Australian Law Reform Commission
AUSTLII – Australian Legal Information Institute
CAD – Computer Aided Design (sometimes also: Computer Assisted Drafting)
CLA – Circuit Layouts Act 1989 (Cth)
CRC – Collaborative Research Centre
CSIRO – Commonwealth Scientific and Industrial Research Organisation
DUS – Distinctive Uniform and Stable
EDV – Essentially Derived Variety
EL – Eligible Layout
EPC – European Patent Convention
EU – European Union
FRG – Federal Republic of Germany
GMO – Genetically Modified Organism
IP – Intellectual Property
IPAC – Industrial Property Advisory Committee
IPAustralia – Intellectual Property Australia; Australian Government agency responsible for administering patents, trade marks, designs and Plant Breeder's Rights.
IPRs – Intellectual Property Rights
IVF – In Vitro Fertilisation
NDA – Non Disclosure Agreement
NGO – Non Governmental Organisation
NRDC – National Research Development Corporation (predecessor of CSIRO)
PBR – Plant Breeder's Right
PCT – Patent Cooperation Treaty
PSA – Person Skilled in the Art
PV – Plant Variety
R&D – Research and Development
RAM – Random Access Memory
SME – Small and Medium Enterprise

TMA – Trade Marks Act 1995 (Cth)
TPA – Trade Practices Act 1974 (Cth)
TPC – Trade Practices Commission (forerunner of the ACCC)
TRIPS – Trade Related Intellectual Property rights
UPOV – (International) Union for the Protection of New Varieties of Plants
USFTA – United States–Australia Free Trade Agreement
VDU – Visual Display Unit
WIPO – World Intellectual Property Organization
WTO – World Trade Organization

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