

# Chapter 1

## Intellectual property through the lens of human development

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*[T]he legal regime of intellectual property has insinuated itself more deeply into our lives and more deeply into the framework of international law, affecting everything from the recreational home user's ability to share music, to the farmer's ability to replant seed, to the production and distribution of life-saving drugs. Indeed, with full compliance to the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement now required (as of January 1, 2005) in all but the world's very least developed countries, intellectual property law becomes literally a question of life or death. Despite these real world changes, intellectual property scholars increasingly explain their field through the lens of economics. (Sunder 2006, p. 261)*

### Introduction

Intellectual property rights (IPRs) intersect with many vital areas of human well-being and development. From access to medicines, food, education and the arts, through to the preservation of cultural heritage, there are few human endeavours untouched by intellectual property (IP). As knowledge-based economies rapidly expand in our information age, the need for balance between private rights and the public interest over intangible creations becomes ever more pertinent. There are divided views, meanwhile, on how and if IP can advance the public interest. Sir Hugh Laddie (2002) wrote in his foreword to the seminal report of the Commission on Intellectual Property Rights (CIPR) on *Integrating Intellectual Property Rights and Development Policy*:

On the one side, the developed world side, there exists a powerful lobby of those who believe that all IPRs are good for business, benefit the public at large and act as catalysts for technical progress. They believe and argue that, if IPRs are good, more IPRs must be better. On the other side, the developing world side, there exists a vociferous lobby of those who believe that IPRs are likely to cripple the development of local industry and technology, will harm the local population and benefit none but the developed world. They believe and argue that, if IPRs are bad, the fewer the better. The process of implementing TRIPS has not resulted in a shrinking of the gap that divides these two sides, rather it has helped to reinforce the views already held... So firmly and sincerely held are these views that at times it has appeared that neither side has been prepared to listen to the other. Persuasion is out, compulsion is in. (Ibid., p. iii)

Fervent debate continues over the socio-economic impacts of IP, generating increased public awareness of these issues and at least some notable legal reforms. Increasingly drawn into the debate are a spectrum of individuals and communities who grapple with IP in many different ways. Some are uncertain about their rights whether as IP holders or as users of material which might be under IP protection. Others seek to inform themselves further on the social dimensions of IP – in a field marked by the lack of reliable empirical evidence on the economic impacts of IP, the social dimensions are even more opaque and harder to gauge. Yet others are only

beginning to explore how IPRs have come to pervade and circumscribe their daily lives in palpable ways.<sup>2</sup> In addressing these social and legal dimensions, this study explores how the social impact of IP might be approached and evaluated more systematically.

What developments have there been in the law, along with calls for reforms, since the publication of the CIPR report almost a decade ago? The various chapters in this book try to trace some of those developments. Notably, at the behest of developing countries and civil society organizations, a ‘Development Agenda’ has emerged at the World Intellectual Property Organization (WIPO).<sup>3</sup> This agenda brings to focus many continuing socio-economic concerns that developing countries have in relation to IP, and is intended to mainstream development into WIPO’s work. That the path of adopting and evolving such an agenda has been jagged reveals, however, many challenges ahead in reconciling the socio-economic agendas and cultural interpretations that diverse stakeholders bring to a discussion on IP and development. While a 2008 report by the International Expert Group on Biotechnology, Innovation and Intellectual Property (IEGBIIP) heralds a ‘new era of IP collaboration’ – in contrast to the ‘Old IP’ era, said to be waning and ‘out of sync with the level and types of innovation’ socially needed – many challenges lie ahead in finding the right social equilibrium for IP.<sup>4</sup>

Importantly, new – though some might say ‘old’ – questions have been raised on the very models of development that continue to inform IP policies. Chon (2007, p. 476) observes that ‘recent debates within international intellectual property law reveal a development divide – not only a divide between developed and developing countries according to their material well-being, but also a divide in understanding development as growth contrasted with development as freedom’. In other words, the debate surrounds the very understanding of development itself. Within an ‘economic growth’ model for development, IPRs are often assumed to play a crucial role as an engine of growth and innovation in a country as well as a conduit for foreign investment and technology transfer (see CIPR 2002, pp. 20–26; Straus 2008). It is not uncommon to encounter descriptions of IP or forms of IP (e.g. patents or copyright) as the ‘engine of growth’ (Idris 2003) or the ‘engine of development’ (Oman 2000).<sup>5</sup> Such literature suggests IP protection as an essential driver or even pre-condition of economic growth and development in a country. These viewpoints remain powerful in shaping IP policies at many national and international forums, even though the empirical evidence connecting IP protection and economic development is mixed and inadequate (CIPR 2002; Chon 2006; IEGBIIP 2008). Economic studies have yielded ambivalent results on these connections, not least because it is often difficult to separate out the impact of IP from other intertwined factors relating to an economy. Economists themselves differ in their views on the linkages between IP and economic development. Surveying the existing economics literature on IP, Maskus (2008, p. 500) observes that:

There are multiple relationships in principle between intellectual property protection and economic development, most of them complex and difficult to measure. Despite extensive literature on the subject, much of the available evidence is anecdotal and may be interpreted in various ways.<sup>6</sup>

What seems less debatable is that similar levels of IP protection will have differential socio-economic impact, depending on the stage of development and cultural contexts of countries (United Nations Development Programme [UNDP] 2001; Ostergard 2007; Maskus

2008).<sup>7</sup> Thus, the evolving Development Agenda at WIPO is an opportunity for countries to nuance their engagement with IP according to many more considerations, including meeting basic needs in food and health, increasing capabilities for education, attaining human rights, protecting cultural heritage and sustaining the environment for future generations. In exploring these and other dimensions of development, this book highlights ‘human development’ as a particularly useful framework for broaching social and legal reforms around IP.<sup>8</sup> Central to the human development paradigm is the work of economist and Nobel laureate Amartya Sen since the 1980s on the ‘capability approach’ to development (Sen 1987, 1999). The human development paradigm views the expansion of ‘human capabilities’ (discussed in Section 3) and genuine choices as an important goal of development policies. It draws attention, for example, to questions of social justice and empowerment that may present blind spots in pure income measures of development. Although its application to innovation and IP is more recent, the human development perspective is not new to policymakers. National human development reports have been produced by more than 140 countries, and particular themes have been tackled in the regional and global reports of the United Nations Development Programme (UNDP).<sup>9</sup> Along with Sen’s capability approach, some aspects of the ‘basic needs’ approach to development from the 1970s have also been influential in the human development literature and policies (Haq & Jolly 2008). Some of the essential elements of the human development paradigm are reflected in the following passage from the UNDP *Human Development Report 2001*:

Human development is about much more than the rise or fall of national incomes. It is about creating an environment in which people can develop their full potential and lead productive, creative lives in accord with their needs and interests. People are the real wealth of nations. Development is thus about expanding the choices people have to lead lives that they value. And it is thus about much more than economic growth, which is only a means – if a very important one – of enlarging people’s choices... Fundamental to enlarging these choices is building human capabilities – the range of things that people can do or be in life. The most basic capabilities for human development are to lead long and healthy lives, to be knowledgeable, to have access to the resources needed for a decent standard of living and to be able to participate in the life of the community. Without these, many choices are simply not available, and many opportunities in life remain inaccessible. (UNDP 2001, p. 9)

It has been suggested that ‘there can be as many human development dimensions as there are ways of enlarging people’s choices’, and that key parameters of human development can evolve over time and vary both across and within countries.<sup>10</sup> The concept of human development itself is also subject to revision and rethinking to meet new challenges.<sup>11</sup> While it is impossible to embrace the entire spectrum of subject areas pertaining to human development and IP in one book, the following chapters address in detail the main topics of health, food security, access to education, implications of new technologies, protecting bio-cultural heritage and promoting cultural diversity and the arts. Some cross-cutting themes, such as gender equality and climate change, are addressed in sections within chapters.

This introductory chapter aims to provide some background on IP, while highlighting key human development concerns. Section 1 touches on the nature of IPRs and explores the increasing breadth of subject matter coming under the various forms of IP protection. Section 2

discusses common rationales for protection of IPRs such as copyright and patents, along with some historical trends. Section 3 then sketches some of the basic ideas in the capability approach to human development and explores their potential relevance within the IP context. The capability approach is only one aspect of the human development paradigm and does not exclude other ways of viewing development. Section 4 highlights some important perspectives intertwined with human development, bringing to the fore human rights considerations that increasingly overlap with IP debates. Some questions are then posed in the conclusion for further thought as the reader ventures into other chapters of this book.

## 1. The expanding matrix of intellectual property rights

Intellectual property refers to a class of legal rights which typically protect intangible creations of the mind. It was only in the twentieth century that the term ‘intellectual property’ became used generically to refer to a ‘group of legal regimes which began their existence independently of each other and at different times in different places’ (Drahos 1996, p. 14; see also Tansey 2008, p. 11). While many think of patents, copyrights and trademarks when discussing IP, there are various other regimes governing IPRs such as trade secrets, geographical indications, plant variety protection (PVP), industrial designs and utility models. Though working quite independently of one another, albeit with increasing subject-matter overlap, these property regimes together encompass all kinds of intangible elements, including ‘inventions’ in almost any field imaginable, expressions on any topic in any medium, databases, reputations and, indeed, ideas.

A non-exhaustive description of various forms of IPRs is found in Box 1.1. There is significant variation in the kinds of subject matter covered by the many forms of IPRs, the nature of the rights granted, the conditions for exercise of the rights (or how the rights are infringed), and the exemptions or privileges retained for the public in terms of access to the intangible elements protected and their physical embodiments (such as drugs, books and branded goods). Although it is impossible to touch on all of these aspects in this introduction, a few points will be highlighted here about the nature of IPRs and the expanding subject matter of IP protection. Various chapters in this book delve with more detail into particular forms of IPRs. This introductory chapter focuses mainly on patents and copyright.

It has been said that information is by nature non-rivalrous and non-excludable. By treating certain embodiments or applications of information as private property, IP laws effectively ‘parcel’ information and enable the rights owners to prevent others from handling and commercially exploiting the information in certain ways without their permission. As Cornish and Llewelyn note, ‘the right-owner does not need the right in order to exploit a market for its goods and services: a patent is not a pre-condition to exploiting one’s own invention’ (2003, p. 6). Since IPRs are ‘rights to stop others doing certain things’, it is said that they are essentially

**Box 1.1. Some types of intellectual property rights<sup>12</sup>**

**Copyright:** Copyright protection covers a broad range of literary and artistic works such as novels, poems, plays, mimes, dance, songs, films, drawings, paintings, photographs, sculptures, architectural designs and multimedia productions. Computer programs now fall within copyright protection under the category of ‘literary works’ (TRIPS Agreement, Article 10(1)). It has been said that copyright ‘prevents unauthorised reproduction, public performance, recording, broadcasting, translation, or adaptation, and allows the collection of royalties for authorised use’ of protected works (CIPR 2002, p. 13). Copyright ‘only prevents copying, not independent derivation’ (ibid.). The general rule is that copyright protects ‘expressions of ideas’ but not the ideas themselves. The expression involved has to pass a test of ‘originality’, which is not defined in the Berne Convention on Literary and Artistic Works (‘Berne Convention’) and which is interpreted differently in different jurisdictions. There are no formalities for copyright subsistence in countries which are signatories to the Berne Convention. Articles 9 to 14 of the current 1971 version of the Berne Convention leave some discretion as to what acts may be defined as infringement under national laws. National statutes usually lay down a list of acts which would infringe copyright, along with provisions dealing with exceptions or defences to infringement. The Berne Convention provides for a *minimum* copyright term of author’s life plus 50 years (Article 7(1); Article 7(6)). Different rules apply for pseudonymous and anonymous works (Article 7(3)), works of joint authorship (Article 7 *bis*), cinematographic works (Article 7(2)), photographic works and works of applied art (Article 7(4)). Copyright can be assigned and licensed in most jurisdictions. Along with copyright, most countries also recognize moral rights, although to varying extents (see definitions in Chapter 5 and 8).

(Source: CIPR 2002, p. 13; Berne Convention (Paris Act, 1971); see further Chapters 5–8)

**Related Rights:** The purpose of related rights is ‘to protect the legal interests of certain persons and legal entities who contribute to making works available to the public; or who produce subject matter which, while not qualifying as works under the copyright systems of all countries, contain sufficient creativity or technical and organizational skill to justify a copyright-like property right’ (WIPO 2005a, p. 18). Related rights are known as ‘neighbouring rights’ in some jurisdictions. The law of related rights ‘deems that the productions which result from the activities of such persons and entities merit legal protection in themselves, as they are *related* to [or neighbouring on] the protection of works of authorship under copyright’ (ibid. pp. 18–19). As generally understood, there are three kinds of related rights: the rights of performing artists in their performances, the rights of producers of phonograms in their phonograms, and the rights of broadcasting organizations in their radio and television programmes (WIPO 2004, p. 46). Some laws make clear, however, that ‘the exercise of related rights should leave intact, and in no way affect, the protection of copyright’ (WIPO 2005a, p. 19).

(Source: WIPO 2004, p. 46; WIPO 2005a, pp. 18–22; see further Chapters 7 and 8)

**Trade Secrets:** Trade secrets are one of the oldest forms of IP around. Gollin (2008, p. 67) notes that in IP law, ‘a trade secret is any information used in the operation of a business that is sufficiently valuable and secret to give an actual or potential economic advantage over others’. Trade secrets usually consist of commercially valuable information about production methods, business plans and clientele (CIPR 2002, p. 13). They are protected as long as they remain secret, by laws which prevent acquisition by commercially unfair means and unauthorized disclosure (ibid.). Examples include customer lists, financial information and secret formulas like the recipe for Coca-Cola (Gollin 2008, p. 67). To benefit from legal protection, the owner must usually take

reasonable measures to keep the information secret, such as through confidentiality agreements (ibid.). Such requirements vary with jurisdictions.

(Source: CIPR 2002, p. 13; Gollin 2008, pp. 67–69)

**Patents:** A patent may be granted for a product or process which constitutes an ‘invention’ and meets specific requirements under national laws. Article 27 of the TRIPS Agreement provides that ‘patents shall be available for any inventions, whether products or processes, in all fields of technology, provided that they are new, involve an inventive step and are capable of industrial application’ (Article 27(1)). A patent confers exclusive rights on the owner to prevent others from making, using, offering for sale, selling or importing for these purposes the product under patent, without the owner’s consent (Article 28(1)(a)). Normally, a process patent extends such control also to the use, offer for sale, sale or importation of the products directly obtained by that process (see Article 28(1)(b)). The patent is granted for a fixed period of time (Article 33 of the TRIPS Agreement stipulates 20 years minimum from filing date). In return, society requires that the patent applicant disclose the invention in a manner that enables others to put it into practice. Along with sufficient disclosure of the invention, there are typically three basic requirements (although details differ from country to country) that determine the patentability of an invention: novelty (new elements or features that are not in the ‘prior art’), non-obviousness (a sufficient inventive step for one skilled in the field), and utility (as used in the US) or industrial applicability (as used in most other countries). Unlike infringement of copyright, imitation is not always necessary for there to be a patent infringement. There are, however, usually exemptions from infringement for certain uses of patented products and processes, for example, in the case of experimental use.

(Source: CIPR 2002, p. 12; TRIPS Agreement; see further Chapters 2–4)

**Utility Models:** While not as widespread as patents, utility models (known as petty patents, innovation patents or utility innovations in some jurisdictions) are also used to protect inventions.<sup>13</sup> Utility models are similar to patents, but tend to confer rights of shorter duration to certain kinds of small or incremental innovations. They are usually sought for technically less complex inventions (e.g. in the mechanical field) or for inventions that have a short commercial life. The substantive requirements for acquiring protection for a utility model are [usually] less stringent than for patents, and vary with countries. While the ‘novelty’ requirement must always be met, the requirements of ‘inventive step’ or ‘non-obviousness’ may be much less stringent than for patents or absent altogether. In practice, protection for utility models is often sought for innovations of a rather incremental nature, which may not meet the patentability criteria. The procedure for obtaining protection for a utility model is often shorter and simpler than for a patent, with generally lower fees for obtaining and maintaining the right.

(Source: WIPO 2005b, pp. 8–9; see further Suthersanen, Dutfield & Chow 2007)

**Industrial Designs:** An industrial design, in general terms, is the ornamental or aesthetic aspect of a useful article. This aspect may depend on the shape, pattern or colour of the article. In a legal sense, industrial design refers to the right granted in many countries, pursuant to a registration system, to protect the original, ornamental and non-functional features of a product that result from design activity. Industrial designs can generally be protected if they are new and original, but in contrast to copyright, the article must be useful and able to be reproduced by industrial means. In most industrial design laws, designs that are dictated solely by the article’s function are excluded from protection (e.g. a screw). Industrial design registration protects against unauthorized exploitation of the design in industrial articles. It typically grants the owner of the design the exclusive right to make, import, sell, hire or offer for sale articles to which the design is applied or

in which the design is embodied. The term for an industrial design right varies from country to country.

(Source: WIPO 2005b, pp. 9–10)

**Trademarks:** Trademarks provide exclusive rights to use distinctive signs, such as symbols, colours, letters, shapes, sounds or names to identify the producer of a product, and protect its associated reputation (CIPR 2002, p. 13). Trademarks operate as indicators of the trade source, and can also symbolize qualities associated by consumers with certain goods and services (Cornish & Llewelyn 2003, p. 587). They can provide a guarantee that the goods and services measure up to expectations (*ibid.*). In order to be eligible for protection a mark must be distinctive of the proprietor so as to identify the proprietor's goods or services (CIPR 2002, p. 13). The main purpose of a trademark is to prevent customers from being misled or deceived. The period of protection varies, but a trademark can be renewed indefinitely (usually on payment of fees). In addition many countries provide protection against acts of unfair competition (see Article 10*bis* of the Paris Convention for the Protection of Industrial Property), for example in preventing misrepresentations as to trade origin, regardless of whether a trademark has been registered and infringed (CIPR, p. 13). There is special protection for 'well known' marks, which typically includes protection against diminution of the value of the mark even without consumer confusion. IP protection can also extend to trade names, service marks, collective marks and certification marks.

(Source: CIPR 2002, pp. 13; see further Chapter 5)

**Geographical Indications:** Geographical indications (GIs) identify the specific geographical origin of a product, and the associated qualities, reputation or other characteristics. They usually consist of the name of the place of origin. For example, food products sometimes have qualities that derive from their place of production and local environmental factors. Appellations of origin are an example of GIs. Under the Lisbon Agreement,<sup>14</sup> 'appellation of origin' means the 'geographical name of a country, region, or locality, which serves to designate a product originating therein, the quality and characteristics of which are due exclusively or essentially to the geographical environment, including natural and human factors' (Article 2). GIs are now protected against misrepresentation under Article 22 of the TRIPS Agreement, with stronger protection given to wines and spirits (Article 23). While GIs have been used mainly in relation to agricultural products, their use has been increasingly explored for other products including crafts. Apart from local factors such as climate and soil, GIs may also 'highlight particular qualities of a product, which are due to *human factors* found in the place of origin of the products, such as specific manufacturing skills and traditions' (WIPO 2005b, p. 14).

(Source: CIPR 2002, p. 13; WIPO 2005b, pp. 14–15; see further Chapter 5)

'negative' rights (*ibid.*, p. 6; see also Laddie et al. 2000, p. 1).<sup>15</sup> Thus, copyright is not so much a right for the owner to 'copy' her own work (which the owner can do anyway), but rather a right to prevent others from reproducing and handling the work in certain ways.<sup>16</sup> Going further in granting exclusive rights than copyright (though for shorter periods), patents in fact enable the rights owners to prevent others from making a protected invention, even where this is done through independent research efforts.<sup>17</sup> In this sense, patents have been described as giving rise to 'monopoly' rights (see Cornish & Llewelyn 2003, pp. 35–41). Moreover, patents may protect not only new products but even newly-discovered uses of already known ones.

The terms of protection for patents and copyright have been expanding over the centuries (and particularly in the last decades). Under the TRIPS Agreement,<sup>18</sup> patent rights are now granted for a minimum term of twenty years from the filing of application (Article 33), though this tends to require the periodic payment of renewal fees; otherwise patents will prematurely lapse. The term of copyright protection has expanded historically from fourteen years under the English Statute of Anne of 1710,<sup>19</sup> to author's life plus a minimum of fifty years under Article 7 of the Berne Convention for the protection of Literary and Artistic Works (1971).<sup>20</sup> The latter is a 'minimum' standard only – members are free to provide longer terms under their national systems and often do.<sup>21</sup> Special rules may also apply to particular types of works (see Box 1.1). To give some examples, the term of protection in the US is the life of the author plus seventy years generally, and ninety-five years from first publication for works made for hire.<sup>22</sup> The term of protection for copyright is also the author's life plus seventy years in European Union (EU) countries.<sup>23</sup> While related rights typically enjoy a shorter term of protection, there are developments at the European Parliament and Commission to extend the term for those rights.<sup>24</sup> Meanwhile, trademarks, geographical indications and trade secret protections are potentially perpetual provided certain conditions are continually met.

While there are regional and international efforts to harmonize IP laws, the protection of IPRs still varies significantly amongst countries and is generally restricted to the geographic area of the state in question. In this sense, IPRs are territorial. In the case of some IPRs such as patents and trademarks, protection is obtained through meeting formalities in each country where it is sought. A product that is patented in country A might be reproduced legitimately (under IP laws) in another country where the same product is not patented. An applicant may, however, be able to obtain patents for the same invention in multiple countries, through filing applications in individual countries or through multiple and simultaneous patent applications under the Patent Cooperation Treaty (PCT).<sup>25</sup> Through provisions of reciprocity in international conventions (including the Berne Convention) and regional or bilateral agreements, some forms of IPRs such as copyright have been effectively extended to other territories without formalities. The TRIPS Agreement incorporates many provisions from other IP instruments including the Berne Convention and the Paris Convention for the Protection of Industrial Property of 1883.<sup>26</sup>

Conventional forms of IP such as copyright and patents emphasize what is new, rather than pre-existing, in extending protection to particular works or inventions. Though most jurisdictions have preconditions such as 'originality' for copyright, or 'novelty' and 'inventive step' for patents, interpretations vary significantly amongst countries' national courts and patent offices on the thresholds for protection, and may not coincide with a layperson's concept of these terms. The differences are especially apparent when new technology challenges both existing legal rules and ethical standards – for example, in patent claims in relation to the isolation of gene sequences,<sup>27</sup> embryonic stem cells, or over genetically modified organisms (GMOs) such as the cancer-prone Harvard 'oncomouse'. Digital technology is further blurring the lines between what is traditionally protectable and non-protectable under copyright laws (see Chapters 7 and 8). Information and communication technologies (ICTs) are expanding the scope of knowledge creation and exchange, with the Internet making way for new 'participatory' forms of creation in terms of remixing and re-contextualizing works. Legal developments are at pains to catch up with these technological and social changes, and may over-compensate when they do through increased standards and enforcement of IPRs to control the flow of creations over these evolving



networks.<sup>28</sup> Laws relating to technology protection measures (TPMs) have attracted significant scrutiny. For example, legally prohibiting the circumvention of technology used by IP right owners to ‘lock-down’ material has been criticized for allowing owners in some cases to block fair use of such material (Hinze 2008; see Chapter 7).

Along with term extension, the overall subject matter covered by IPRs has expanded tremendously over the last century, both within established categories of rights and in relation to new ‘*sui generis*’ rights (i.e. ‘of their own kind’ or ‘unique’). Discussing patent law in the *Diamond v. Chakrabarty* case, the United States Supreme Court held that the scope of patentable subject matter includes ‘anything under the sun that is made by man’ with the presumption that even a bacterium can be man-made.<sup>29</sup> Some might point out, though, that patents and some other forms of IPRs now border on the protection of the ‘natural’, covering such material as microorganisms, germplasm, a colour<sup>30</sup> or a scent.<sup>31</sup> ‘Novelty’ is also increasingly questioned in cases where patents are obtained, for example, for secondary uses of existing drugs (see Chapter 2).

Meanwhile, copyright protection has expanded well beyond books, music, plays and sculptures to cover non-aesthetic material such as computer software (now protected within the category of ‘literary’ works despite their functional nature) and databases. While the legal axiom is that copyright protects ‘expressions of ideas’ and not the ideas themselves, the line is an especially fine one in the case of databases. The frontiers in the protection of databases are pushed further by *sui generis* laws which are in place in the EU<sup>32</sup> and under consideration in the US (see Ruiz 2004; Box 1.2).<sup>33</sup> These developments signal the endeavour of legislators in some developed countries to protect not only ‘original’ creations but also the investments in information products and recombinations of existing material (some would say ‘facts’). That a lot of ‘original’ works might be said to be ‘recombinations’ of other works is a topic explored later in Section 2.

Indeed, the concept of ‘originality’ has been stretched in some jurisdictions to cover quite mundane subject matter. While courts have alluded to protecting the ‘genius’ of inventors and creators through IP,<sup>34</sup> Sir Hugh Laddie (1996, pp. 11–12) observed within the UK context that ‘one of the problems with copyright law is that, unlike inventions protected by patent or designs protected by registration, the requirements for qualification are so low as to be virtually non-existent’. Noting that a label of instructions placed at the side of a barrel of herbicide was considered a copyright-protected literary work in the case of *Elanco v. Mandops*,<sup>35</sup> he added that:

No doubt depending on the youth of the literary genius who wrote it, the label will be protected for more than a century and perhaps for as long as a century and half – certainly well beyond the date when for safety or commercial reasons the product has been removed from the market. So one of the troubles with copyright, then, is that it springs up to protect nearly every creation of the human mind, be it ever so trivial.<sup>36</sup> As another member of the judiciary put it, the fact that our system of communication, teaching and entertainment does not grind to a standstill is in large part due to the fact that in most cases infringement of copyright has, historically, been ignored. (Ibid.)

A song common to persons of all ages – the ‘Happy Birthday’ song – comes to mind. If the song is still under copyright protection as some claim (see Justice Breyer in the *Eldred* case),<sup>37</sup> then ‘copycats’ are surely ignored most of the time. Others query whether the song may already have entered the public domain, even though some royalties are still being paid to the alleged rights owners (Brauneis 2008, p. 68).

The story of IP is intertwined with the story of the public domain. Many view the public domain as a critical public resource that free expression and creativity draw from and depend upon (Litman 1990; Cohen 2006). Challenging notions of authorship and ‘originality’ in IP law, Litman (1990, p. 966) asserts: ‘[T]he very act of authorship in any medium is more akin to translation and recombination than it is to creating Aphrodite from the foam of the sea...in the absence of a vigorous public domain, much of it would be illegal’. Thus, commentators have often focused on the need to ‘safeguard’ the public domain from the encroachment of IP. In his article ‘The Second Enclosure Movement and the Construction of the Public Domain’, Boyle (2003, pp. 37–38) argues that there is an ‘enclosure of the intangible commons of the mind’, comparable to the historical ‘first enclosure’ of fencing off common land and converting it into private property. He sees evidence of such a second enclosure movement in the expanding scope of IPRs and the steady withering away of limits posed by old restrictions on subject matter, copyright term and exceptions.<sup>38</sup> He says that the ‘the old limits to intellectual property rights – the anti-erosion walls around the public domain – are also under attack’ (ibid., p. 38).

While the public domain has been articulated in many different ways (see definitions in Samuelson 2006; Suthersanen 2008, p. 4), IP law conventionally treats what is not covered by IP protection as part of the ‘public domain’. Belder notes that ‘we see the public domain as the reverse image of property, in danger of being overwhelmed by an international policy focusing on world markets and competition’ (2007, pp. 51–52; see also Chapter 5). Following one definition: ‘The term public domain refers to creative materials that are not protected by intellectual property laws such as copyright, trademark or patent laws. The public owns these works, not an individual author or artist. Anyone can use a public domain work without obtaining permission, but no one can ever own it.’<sup>39</sup> It is also possible to think of aspects of an IP-protected work (e.g. elements subject to fair use) as belonging to the public domain. Boyle (2003, p. 69) suggests, for example, that: ‘To the “bundle of rights” conception of property...can be counterposed the “bundle of privileges” vision of the public domain, where we assume, for example, that fair use over a copyrighted work is part of the public domain’ (ibid.).

Along with exceptions and limitations to IPRs, the temporal limits for copyright protection are intended to ensure that a copyright-protected work joins the ‘public domain’ after a period of exclusive rights reserved to the copyright owner. Applying the relatively long copyright term of protection for books to other works such as software calls to question, however, the value of what is ultimately ‘returned’ to the public domain when protection finally expires.<sup>40</sup> A young computer programmer who writes a new piece of software may generate ‘a monopoly which will normally last for over 100 years’ (Laddie 1996, p. 10).

Copyright duration and its extension was a huge issue in the US in the *Eldred v. Ashcroft* case, where petitioners unsuccessfully challenged at the Supreme Court the constitutionality of the US Congress’s extension of copyright term for all works by twenty years (including existing

works, retroactively) through the Sonny Bono Copyright Term Extension Act (CTEA) of 1998.<sup>41</sup> It is notable that in his dissenting statement, Justice Stevens suggested there might be a ‘functional equivalent’ to ‘perpetual copyrights’:

The express grant of a perpetual copyright would unquestionably violate the textual requirement that the authors’ exclusive rights be only “for limited Times.” Whether the extraordinary length of the grants authorized by the 1998 Act are invalid because they are the functional equivalent of perpetual copyrights is a question that need not be answered in this case because the question presented by the certiorari petition merely challenges Congress’ power to extend retroactively the terms of existing copyrights.<sup>42</sup>

The retroactive nature of the CTEA – extending the copyright term not only for new works but also for existing works – was the subject of much controversy.<sup>43</sup> On the question of retroactivity, Justice Stevens observed that ‘neither the purpose of encouraging new inventions nor the overriding interest in advancing progress by adding knowledge to the public domain is served by retroactively increasing the inventor’s compensation...’<sup>44</sup>

Whether we in fact need to rethink the public domain concept in itself is an important subject examined in Chapter 9. Some point out, for example, that what is in the public domain is not necessarily accessible (Chon 2006; Dinwoodie & Dreyfuss 2006; Gollin 2008). Noting that the ‘public domain is more than a place where the old intellectual property goes to die’, Dinwoodie and Dreyfuss (2006, p. 194) suggest that: ‘What matters is whether the information a second comer needs is available for use – whether it is in a domain that might be called “the domain of accessible knowledge”’. Discussing this concept, Gollin (2008, pp. 48–51) tries to map ‘the accessible domain’ in terms of different degrees of accessibility, from the fully accessible to the least accessible (see also Samuelson 2006). Mapping the public domain is no straightforward exercise, and there are significant discussions at WIPO in this direction within the context of implementing the Development Agenda (see Suthersanen 2008).

There is, moreover, a need to rethink public domain concepts in terms of different systems of ownership or a plurality of domains (Boyle 2003; Dutfield 2006; Chander & Sunder 2004; Samuelson 2006; see Chapter 9). It has been said, for example, that definitions of the public domain which assume a dichotomy between public domain and private property rights cannot easily accommodate systems of ‘ownership’ or rights over intangible material beyond Western property regimes (Dutfield 2006; Belder 2007; see Chapter 5). Thus, some representatives of indigenous peoples have argued that their traditional knowledge (TK) does not fall within the ‘public domain’ simply because they are not typically subject to ‘private rights’ (see Deer 2009).<sup>45</sup> These debates reveal differences in approaches not only towards property but also towards innovation. As is seen in various chapters of this book, a challenge for the existing IP systems lies in their interactions with different modes of innovation and ways of viewing creativity.<sup>46</sup> Do IP regimes foment certain modes of innovation but not necessarily other modes (see Chapters 3–5)? It has been argued, for example, that IP regimes such as patents were designed around particular notions of science and innovation, and may not be relevant to all innovative communities.<sup>47</sup>

Meanwhile, concerns over commercialization of their TK and cultural heritage by third parties, whether in terms of pharmaceutical companies scouting traditional medicinal knowledge (TMK) as a resource towards patentable inventions or the copying of indigenous arts and crafts by mass producers, have led custodians of such heritage (including indigenous peoples and local communities guided by customary practices) to grapple with IP. The United Nations (UN) Declaration on the Rights of Indigenous Peoples, adopted by the UN General Assembly in September 2007, refers in its Article 31(1) to the rights of indigenous peoples to ‘maintain, control, protect and develop their intellectual property over such cultural heritage, traditional knowledge, and traditional cultural expressions’.<sup>48</sup> At the same time, there are those who are concerned that the application of property concepts to TK and traditional cultural expressions (TCEs), in the course of ‘protecting’ such material from third-party exploitation, may transform the very social relations and processes underpinning the creation of such knowledge and expressions (Leach 2005).<sup>49</sup>

There are now efforts at the international and national levels to devise *sui generis* protection for TK and TCEs (see Chapters 4 and 5). Other ‘unique’ or *sui generis* forms of protection have already emerged over the years (see Box 1.2). Apart from database rights (discussed earlier), these include rights over integrated computer circuits and plant varieties. Each has a birth story very much shaped by the relative positions and power of stakeholders in the IP matrix (see Chapter 3 on the evolution of plant breeders’ rights; see also Dutfield & Suthersanen 2008). As illustrated in various chapters of this book, with new technologies usually comes some re-alignment of the power axis (see Suthersanen 2007). However, the calibration of IP may not always correspond to considerations of social justice and often reflects who has access to the decision-making process and tools (including knowledge about IP) at the international and national levels.

## 2. Rationales, checks and balances

Natural rights arguments for IP tend to focus on protection of the ‘personality’ of creators or the idea that a creator has a natural property right in the fruits of his or her intellectual labour (Fisher 2001).<sup>50</sup> The personality-based arguments are most visible in the German and French systems for protecting authors’ rights, especially their moral rights (see Chapters 5 and 8). Understanding how particular IP regimes have evolved within different legal traditions and historical contexts is important for a nuanced approach towards IP policy reforms. It is often said that civil law systems protect the natural rights of authors, while common law systems emphasize economic reward and incentives for innovation (cf. Mossoff 2007). In practice, cross-pollination of laws through historical circumstances, regionalism (e.g. under EU harmonization) and multilateral frameworks including TRIPS have blurred many of these distinctions.<sup>51</sup>

While both natural rights and economic rationales for IPRs such as patents and copyright can co-exist in a jurisdiction, the economic rationales tend to prevail in IP-related policy discussions in many countries, as well as in norm-setting activities at the international level. This section first introduces the utilitarian approach to justifying IP, as articulated in seminal literature on IP and economics (notably in Landes & Posner 1989, 2003). This approach focuses on IP as

**Box 1.2. *Sui generis* systems<sup>52</sup>**

**Integrated Computer Circuits:** Layout designs of integrated circuits are not considered to be industrial designs under the laws providing for the registration of industrial designs. This is because they do not determine the external appearance of integrated circuits, but rather the physical location, within the integrated circuit, of each element with an electronic function. Moreover, layout designs of integrated circuits are not normally patentable inventions, because their creation usually does not involve an inventive step. Uncertainty surrounding the protection of layout designs led to the adoption of the *Treaty on Intellectual Property in Respect of Integrated Circuits* under WIPO's auspices on 26 May 1989.<sup>53</sup> While the Treaty has not entered into force, a number of its substantive provisions have been incorporated by reference in the TRIPS Agreement (Article 35). The minimum period of protection for lay-out designs under the TRIPS Agreement is ten years, and is counted from date of filing an application for registration or from 'first commercial exploitation wherever in the world it occurs' depending on national laws (see Articles 38(1) and 38(2)).

(Source: WIPO 2005b, pp. 11–12)

**Plant Variety Protection (PVP):** Commonly referred to as plant breeders' rights (PBRs), PVP is granted to breeders of new, distinct, uniform and stable plant varieties. Most national laws are based on the International Convention for the Protection of New Varieties of Plants ('the UPOV Convention'),<sup>54</sup> of which almost seventy countries are now parties. Countries' obligations vary with the particular Act of the UPOV Convention they have signed up to (see Chapter 3 on some differences between the 1978 and 1991 Acts). PVP rights normally offer protection for at least fifteen years (counted from granting), although the term is often longer for vines and trees than for annual food crops and ornamental plants. In most respects, the exclusive rights enjoyed by the owner are weaker than for patents. Under Article 27(3)(b) of the TRIPS Agreement, World Trade Organization (WTO) members must grant some form of protection towards plant varieties 'either by patents or by an effective *sui generis* system or by any combination thereof'. Countries thus have significant flexibility to design their own *sui generis* protection for plant varieties (see Chapter 3; see also the discussion on farmers' rights in Chapter 4). Most countries provide for exceptions. These include the freedom to use protected material for further breeding, and the 'privilege' for farmers to save and replant seeds, but not to sell them. In some cases replanting may require remuneration to the right owner, but in many countries no payment is necessary.

**Database Protection:** EU legislation<sup>55</sup> now provides for *sui generis* protection of databases, preventing unauthorized use of data compilations, even if non-original (CIPR 2002, p. 13). This is in addition to any copyright protection for databases which meet the requirement of 'originality' in a country. For the purposes of Council Directive 96/9/EC of 11 March 1996 on the legal protection of databases, 'database' refers to 'a collection of independent works, data or other materials arranged in a systematic or methodical way and individually accessible by electronic or other means' (Article 1(2)). The *sui generis* protection is given to the 'maker of a database which shows that there has been qualitatively and/or quantitatively a substantial investment in either the obtaining, verification or presentation of the contents' (Article 7(1)). It grants the right to 'to prevent extraction and/or re-utilization of the whole or of a substantial part, evaluated qualitatively and/or quantitatively, of the contents of that database' (ibid.). There are also restrictions on 'the repeated and systematic extraction and/or re-utilization of insubstantial parts of the contents of the database' (see Article 7(5)).

**Protection for Traditional Knowledge (TK) and Traditional Cultural Expressions (TCEs):** A number of countries now have *sui generis* regimes for the protection of TK and/or TCEs (see the definitions and discussion in Chapters 4 and 5). Some countries have *sui generis* laws protecting particular aspects of TK, such as medicinal knowledge (e.g. in the case of Thailand; see Appendix C). In other countries, TK protection is bound up with *sui generis* laws to promote biodiversity (e.g. in Peru), recognizing that such knowledge is often embodied in the plant genetic resources managed by TK custodians (see Chapter 4; see the Convention on Biological Diversity of 1992, Art. 8(j)).<sup>56</sup> TCEs may comprise such expressions as symbols, stories, songs, handicrafts, costumes and even architectural forms. Countries may opt to protect TCEs as part of a holistic protection of TK, or address them through separate legislation. Most countries do not as yet have *sui generis* laws for protecting TK and/or TCEs and have sought to provide such protection through existing IP regimes. Existing forms of IPRs have varying relevance and limitations for the defensive or affirmative protection of such knowledge and cultural heritage (see Chapters 4 and 5). Along with some regional initiatives (e.g. in the Andean Community), there are discussions at international forums including WIPO to elaborate appropriate principles and frameworks for the protection of TK and TCEs.

an economic incentive to creators. The overarching idea is that the ‘public interest’ would be advanced through the accumulation of inventions and other creative endeavours thus incentivized. Utilitarian arguments are said to underpin the US constitutional approach to IP (see Fisher 2001; Sunder 2006; Declaye 2008). Addressing the IP clause of the US Constitution,<sup>57</sup> the Court in *Mazer v. Stein* (1954) noted that:

The economic philosophy behind the clause empowering Congress to grant patents and copyrights is the conviction that encouragement of individual effort by personal gain is the best way to advance public welfare through the talents of authors and inventors in ‘Science and useful Arts’.<sup>58</sup>

Within the utilitarian theory, IP is seen as preventing ‘free riding’ by third parties on the works of individual creators. Landes and Posner (1989, p. 326) suggest that a ‘distinguishing characteristic’ of IP is its ‘public good’ aspect:

While the cost of creating a work subject to copyright protection – for example, a book, movie, song, ballet, lithograph, map, business directory, or computer software program – is often high, the cost of reproducing the work, whether by the creator or by those to whom he has made it available, is often low. And once copies are available to others, it is often inexpensive for these users to make additional copies. If the copies made by the creator of the work are priced at or close to marginal cost, others may be discouraged from making copies, but the creator’s total revenues may not be sufficient to cover the cost of creating the work. Copyright protection – the right of the copyright’s owner to prevent others from making copies – trades off the costs of limiting access to a work against the benefits of providing incentives to create the work in the first place.

Such economic arguments for IP posit that the non-rival and non-excludable nature of information makes IP protection necessary to remedy what would otherwise be ‘market failure’ in the provision of information as public goods. It is said that, without property rights in the intangible, free riding would drive away the incentives for creators to produce goods embodying

information.<sup>59</sup> This would in turn diminish the works available to the public at large and therefore their ‘utility’ (i.e. happiness or desire fulfilment). Utilitarian arguments have also been explored for trademarks (see Landes & Posner 2003; Scott, Oliver & Ley-Pineda 2008). Scott et al. (2008, pp. 295–296) suggest that:

From the consumer’s perspective, trade marks help reduce the risk and uncertainty of making a purchase... In most manufacturing processes, there is an enormous gap between consumer and the source of the product, making the role of the trade mark all the more important. Consequently, it is not surprising that the traditional purpose of the law has been to stop traders misrepresenting the origin of their goods. Without such legal protection, there would be few incentives for traders to build up goodwill by making good-quality products; and, from the consumer side, the very function of trade marks would be undermined.

Scott et al. argue that ‘the justification is straightforwardly utilitarian’ in the context of preventing confusion (ibid., pp. 296–297, 305). They qualify, however, that the utilitarian argument is less convincing with respect to the extension of trademark law to prevent dilution of a trademark, and the protection of brand value.<sup>60</sup>

In the case of patents, the utilitarian argument usually put forward is that patents provide economic incentives for technological innovation, while facilitating the disclosure of technical information from inventions (Landes & Posner 2003, pp. 295–333). The idea is that, in the absence of legal protection for an invention, the inventor ‘will try to keep the invention secret, thus reducing the stock of knowledge available to society as a whole’ (ibid., p. 294). Landes and Posner explain that ‘the conventional rationale for granting legal protection to inventions... is the difficulty that a producer may encounter in trying to recover his fixed costs of research and development when the product or process that embodies a new invention is readily copiable’ (ibid.). According to them, a new product may require the developer to incur heavy costs before any commercial application can be implemented, so that a competitor able to copy the product without incurring those costs will have a cost advantage that may lead to a fall in the market price to a point at which the developer cannot recover his fixed costs (ibid.).

An important part of the social bargain in granting the inventor exclusive rights to exploit the invention for a period of time is the disclosure of ‘patent information’ to the public. The utility of this information to the public, however, is not guaranteed by mere disclosure. Information scientists would be quick to distinguish mere information from knowledge. Bates (2005) defines knowledge as ‘information given meaning and integrated with other contents of understanding’.<sup>61</sup> According to her, so-called knowledge in inanimate objects, such as books, is really only information: ‘Some or all of that information may ultimately be integrated more or less permanently into the pre-existing knowledge stores’ of a person through the act of reading. True ‘access to knowledge’ thus requires the acquisition or nurturing of tools of interpretation and appropriate contexts to transform mere information into knowledge. In this sense, the utility of patent information to the public is not only determined by such factors as the availability and accessibility of databases and the language in which the information is published; expert know-how, local insights or other tacit knowledge are often needed to decipher the long (and often dry) patent specifications, in order to turn the information into applicable knowledge.

Emphasizing that ‘inventors do not need to capture the full social value of their inventions in order to have sufficient incentive to create’, Frischmann and Lemley (2006, p. 119) warn, moreover, against excessive compensation to inventors: ‘Society needs merely to give them [the inventors] enough incentive to cover the fixed costs of creation that their imitators will not face. Any greater return is at best a mere wealth transfer and at worst wasteful – it does not encourage any more innovation in the field, and it may actually interfere with downstream innovation and distort behavior in the market.’ They suggest that ‘with changed circumstances and over time, more and more’ of the social value attendant on an invention ‘will accrue to outsiders who tinker with or repurpose that invention’ (ibid., p. 134).<sup>62</sup> In their opinion, it is important to consider the ‘spillover’ benefits of innovations (i.e. ‘uncompensated benefits that one person’s activity provides to another’) that are often invisible to the market mechanism (ibid., pp. 102, 134).

An overly broad patent claim may end up stifling innovation and competition from non-patent owners, and impede downstream research by ‘follow-on’ inventors (see OECD 2004; see scientists’ open letter to WHO 2006).<sup>63</sup> The impact of ‘patent thickets’ and patent trolls furthermore demands scrutiny (WIPO 2009, pp. 74–76, paras. 281–282).<sup>64</sup> In calibrating IP policy and provisions, legislators and the courts in a country have to consider and juggle the interests of multiple stakeholders, including other inventors and so-called user innovators. For legislators, basic system design questions present themselves in terms of what subject matter to include in (or exclude from) the system, what qualification criteria to impose (if any) before granting rights, what rights to confer to owners, what rights or privileges to retain for the public, what remedies to allow, what duration to assign rights and how to channel subject matter to one system or another.<sup>65</sup>

There may also be material over which patent grants would be ethically inappropriate or innovations for which access is needed by particular stakeholders (e.g. innovations in health and agriculture; see Chapters 2 and 3). Specific provisions may exist in national patent laws for the exclusion of certain subject matter from patenting (e.g. diagnostic, therapeutic and surgical methods). TRIPS member states may also take into account the protection of ‘*ordre public* or morality’ (TRIPS Agreement, Article 27(2)) in excluding subject matter from patentability (although enactment and interpretations vary between jurisdictions). There are furthermore provisions on what acts would not constitute infringement of a patent, or would provide a defence. For example, there are usually provisions for ‘experimental use’ or ‘research exemptions’ in national laws (see Ducor 2001) and compulsory licensing or price controls may be adopted for patented products in specific circumstances (see especially Chapter 2).

These ‘built-in’ checks and balances for patents and other areas of IP are discussed and evaluated in various chapters of this book. Copyright subject matter is limited, as seen earlier, by the ‘idea/expression’ distinction and ‘originality’ requirements. Exceptions or defences to infringement in the form of ‘fair use’ and ‘fair dealing’ also provide a filter (though not foolproof: see Chapters 6 and 8) to ensure that certain elements of copyright protected works are available for particular uses by the public without need for authorization from the copyright owners. The contours of such exceptions or defences impact on free expression and creative endeavours by third parties. Exemptions for library and educational use are also crucial to ensure



sufficient public access to works, although these flexibilities have not been exploited fully in many countries (see Chapters 6–7). Whether formalities are needed for a particular form of IP to subsist in a work also affects the balance between what is protected and what is in the public domain.<sup>66</sup>

With an artillery of levers and bolts, it is perhaps tempting to continually tweak the IP machinery for balancing and fine-tuning the rights of different stakeholders. One inherent difficulty for policymakers in finding the appropriate calibration of IP is that the nature of creative processes is more complex than, and may not in fact be in sync with, some of the assumptions under IP laws about information and innovation. While IP frameworks have tended to emphasize ‘authors’ and ‘inventors’ as individual producers of creative works and innovations, many commentators and studies now suggest that innovation is more incremental and collaborative in nature (see Box 1.3; Weber 1992; Ghosh & Soete 2006; IEGBIIP 2008). Increasingly, attention is drawn to the social relations and networks driving innovation.

The valves and controls are, moreover, not found in IP legislation and interpretation alone. The outcome of IP policies also depends on the many interactions between IP laws and other bodies of law as, for example, contract law (see Chapter 8). Copyright assignment by authors to third parties is commonplace. Indeed, many IPRs are in reality held by companies, including multinational corporations, and public or private research institutions such as universities. Contractual agreements may alter the ‘bargain’ between rights holders and end users as envisaged by IP legislation (Guibault 2002). Other important areas of law interact with IP laws to define the legal boundaries of protection for intangible property. These include such areas as competition, human rights, criminal, torts and privacy law. By way of example, concerns have been raised over the compatibility of patent pools – a possible solution to patent thickets – with competition law (see WIPO 2009, p. 77).<sup>67</sup> The interaction between IP law and human rights law is introduced in Section 4 and further examined in various chapters of this book.

Meanwhile, the internal controls and flexibilities within national IP laws are increasingly circumscribed by the harmonization of IP-related laws (including trade laws) whether at the regional or international level. For example, legal traditions and provisions on IP within member states of the EU are continually being reshaped by regional regulations and decisions, and a mixture of common law and civil law concepts may coexist in a country through this confluence. Internationally, the TRIPS Agreement welds IP protection to the world trade regime, and binds member states of the WTO to a range of minimum standards in IP protection – embracing while adding force to provisions in pre-existing instruments such as the Berne Convention and the Paris Convention. The linkage of IP to trade (and thus trade sanctions) has been deepened through other multilateral instruments and bilateral or regional free trade agreements (FTAs), including those with so-called TRIPS-plus provisions (see Chapters 2, 3 and 7).

**Box 1.3 Revisiting some assumptions on IPRs, information and innovation**

A central idea in utilitarian arguments for IP is the non-excludable and non-rivalrous nature of information. Unlike physical objects, it has been said that information can be used by an infinite number of persons without diminishing the amount of use available to each person. This vision is conveyed in the oft-cited ‘candle’ metaphor employed by Jefferson to describe ‘ideas’:

If nature has made any one thing less susceptible than all others of exclusive property, it is the action of the thinking power called an idea...He who receives an idea from me, receives instruction himself without lessening mine; as he who lights his taper at mine, receives light without darkening me. That ideas should freely spread from one to another over the globe, for the moral and mutual instruction of man, and improvement of his condition, seems to have been peculiarly and benevolently designed by nature, when she made them, like fire, expansible over all space, without lessening their density in any point...(Thomas Jefferson 1813)

Jefferson also likened ideas to ‘the air in which we breathe...incapable of confinement or exclusive appropriation’ (ibid.). While he thought that ‘inventions then cannot, in nature, be a subject of property’ (ibid.), IP laws in effect put invisible fences around certain ideas and enable some parties to exclude others from applying or expressing those ideas in certain ways. The utilitarian argument promoted by Jefferson and others in support of patents and copyrights is that the public will ultimately benefit from the new ideas and innovations which are incentivized by these IPRs. It is said that creators lose their economic incentive to create when others ‘free ride’ on the non-excludable and non-rivalrous nature of ideas and information (Landes & Posner 1989, p. 294).

However, since Jefferson’s time, information and other theorists have challenged some of the preconceptions on the nature of ideas and information within IP frameworks. In ‘Deconstructing Jefferson’s Candle’, Opperbeck (2008, p. 35) argues that ‘contemporary intellectual property theory has been impoverished by its failure to recognize the stratified nature of reality and the tacit and social dimensions of knowing’.<sup>68</sup> He asserts that:

From a critical realist perspective, information is not merely an input, a commodity, and/or a code word for a power play. It can be all of those things, but at some level, information also is the skeleton of all human communities. It is in this sense that information is ‘infrastructure’: we create information that creates communities. (Ibid., p. 49)

An approach to information as not only the creation of individuals but also a fabric of communities and identities may help refocus discussions on IP towards the role of ‘social relations’ (Sunder 2006, pp. 315–319) and networks in information and knowledge creation as well as diffusion (Benkler 2006; Fitzgerald 2008; Moenius & Trindade 2008). The role of communities in knowledge creation and sharing has long been recognized. Scientific research and technological development, for example, have historically been a matter of confluence and circulation of ideas and their applications (Nuvolari 2005; Ghosh & Soete 2006). Challenging the concept of ‘originality’, Litman (1990, pp. 966–967) asserts that:

Composers recombine sounds they have heard before; playwrights base their characters on bits and pieces drawn from real human beings and other playwrights’ characters; novelists draw their plots from lives and other plots within their experience; software writers use the logic they find in other software; lawyers transform old arguments to fit new facts; cinematographers, actors, choreographers, architects, and sculptors all engage in the process of adapting, transforming, and recombining what is already ‘out there’ in some other form.

Is there also art in the recombination of existing elements? In ‘The Wright Brothers and the Heuristics of Invention’, for example, Weber argues that: ‘Invention places a much heavier emphasis on synthesis than does normal analytic science. Said in another way: Science prospers by taking apart things that are normally stuck together, and invention prospers by putting together things that are normally apart. To be sure, the development of the airplane involved both modes of thought and action, but there was a great deal of putting together, combining parts in completely new ways. Flight, as with much of invention, is an emergent capability not enjoyed by its parts in isolation’.<sup>69</sup> He suggests, at the same time, that ‘invention that is significant takes place on a time scale of months, years, lifetimes, and generations’ (ibid.). This makes it ‘quite difficult to validate any particular heuristic’ or mental step in discovery (ibid.).

While innovation is often boxed as either ‘discrete’ or ‘cumulative’, Suthersanen (2008, p. 5) notes that ‘in reality...a vast majority of scientific and cultural creations, if not all, are built on pre-existing creations and discoveries, and do not represent giant leaps beyond what we already know’. The concept of ‘prior art’ in patent law does address these concerns to some extent, and is integral in determining whether the requirements of ‘novelty’ and ‘inventive step’ or ‘non-obviousness’ have been met.<sup>70</sup> What is considered as ‘prior art’ and ‘obvious’ varies significantly under domestic laws,<sup>71</sup> however, and may not always coincide with the viewpoints of scientists. Polanyi (1983, p. 80) observes that ‘the most daring innovations of science spring from a vast range of information which the scientist accepts unchallenged as a background to his problem’. Dinwoodie and Dreyfuss (2006, pp. 195–196) add that:

The crucial importance of access to prior knowledge is also readily admitted by scientists. Thus, Newton famously wrote to Robert Hooke ‘If I have seen further [than certain other men] it is by standing upon the shoulders of giants.’ Scientists’ own understanding can also be perceived in the Mertonian norms of communalism, universalism, disinterestedness, originality, and skepticism, which create an environment of open science where new work is shared and refined – and, indeed, regarded by scientists as refined because it is shared through, for example, funding and publication processes dependent on peer review.

The role of social networks and communities (whether real or ‘imagined’) not only in creating, circulating but also validating information is further exemplified by the Internet (Strathern 2005; Benkler 2006). Scholars in anthropology remind us that comparisons can also be made to social relations, including ‘kinship’, which underpin creative processes in traditional societies (Strathern 1996, 2005; Leach 2005). Intellectual property law has yet to fully catch up with these ideas, even though its borders are steadily expanding to engulf both new technological and so-called traditional areas.

Looking towards history, several commentators have already pointed out how the powerful industrialized countries of today have been adopting IP policies quite fluidly for centuries in advancing their industrial policies and trade interests (Drahos 1996, 2003; Chang 2002; Drahos & Braithwaite 2002; Chon 2007; Tansey 2008). The UNDP Human Development Report 2001 notes:

[M]any of today’s advanced economies refused to grant patents throughout the 19th and early 20th centuries, or found legal and illegal ways of circumventing them – as illustrated by the many strategies used by European countries during the industrial revolution...They formalized and enforced intellectual property rights gradually as they

shifted from being net users of intellectual property to being net producers; several European countries...completed what is now standard protection only in the 1960s and 1970s. (UNDP 2001, p. 102; see further Chang 2002)

Similarly, the US pursued IP policies quite flexibly in the nineteenth century, for example, in providing copyright protection only for its citizens and residents. Rampancy of low-priced copies of British works in the US markets led authors such as Charles Dickens to seek international legal reforms in copyright.<sup>72</sup> With knowledge and cultural products now forming the mainstay of exports from first world countries to the rest of the world in the information age, it is unsurprising that IP protection has become a top agenda in international trade and investment negotiations. In such contexts, IP protection is often framed as a pre-requisite for foreign investment and technology transfer to a developing country or least developed countries (LDCs) (see CIPR 2002, pp. 23–24).

The increasing standardization of IP rules will likely have differential impact for industrialized and developing countries, with further differentiation between the more economically advanced developing countries (such as China, India and Brazil) and those of LDCs or small island developing states (SIDS). As the UNDP Human Development Report 2001 notes of the TRIPS provisions:

A single set of minimum rules may seem to create a level playing field, since one set of rules applies to all. But the game is hardly fair when the players are of such unequal strength, economically and institutionally. For low-income countries, implementing and enforcing the intellectual property rights regime put stress on already scarce resources and administrative skills. Without good advice on creating national legislation that makes the most of what TRIPS allows, and under intense pressure from some leading countries to introduce legislation beyond that required by TRIPS, many countries have legislated themselves into a disadvantageous position. Moreover, the high costs of disputes with the world's leading nations are daunting, discouraging countries from asserting their rights – hence the importance of ensuring adequate legal aid is provided through the World Trade Organization. (UNDP 2001, p. 105)

Legal commentators have distinguished ‘formal’ equality in the TRIPS context from ‘substantive’ equality (Dinwoodie & Dreyfuss 1994; Chon 2007; see Chapter 6). Under the current rubric of trade and IP laws at the international and regional levels, developing countries and LDCs have a lot less flexibility in designing IP laws to suit their local contexts, including the absence (or low levels) of IP protection for certain sectors or activities. Whereas the home-grown IP policies and laws in many now-industrialized countries are continually fine-tuned (Gold & Morin 2009) and reflect one form of rationale or another towards IP protection (see Fisher 2001), many developing countries and LDCs are not necessarily tailoring IP protection to their local contexts and needs. In some cases, laws have been ‘imported’ from other jurisdictions without the necessary safeguards and ‘balances’ existent in those jurisdictions (see Gold & Morin 2009).

More scrutiny is needed of the impacts of IP enforcement on human development, including the increasing resort to criminal sanctions to resolve civil disputes (Laddie 1996; Tapper 2004; see Chapter 7).<sup>73</sup> Rens et al. (2006, p. 30) furthermore caution about the

indiscriminate usage of the term ‘piracy’ to refer to unauthorized reproduction of copyrighted material. The term is often heard in the media and foreign trade bodies in relation to projected losses of first-world countries from mass copies of information goods (or developing countries on misappropriation of genetic resources).<sup>74</sup> Exploring the label of ‘piracy’ as a ‘rhetorical tool of persuasion used to change perceptions and thinking’ about IP, Drahos and Braithwaite (2002, pp. 29–38) suggest that:

Piracy remains a powerful evaluative word. To be called an intellectual property pirate is to be condemned. In a world where the attention spans are divided by the media into ten-second sound bites it is the perfect word to use on TV, videocassettes, newspaper headlines and the radio. The received folk memory of ‘pyrates and rovers’ on the sea does the rest. (Ibid., p. 29)

Drahos and Braithwaite suggest, at the same time, that there is no universally accepted legal definition of ‘piracy’, and that most jurisdictions in the world do not use the term ‘piracy’ in connection with IP as a term of legal art (ibid., pp. 27–28).<sup>75</sup> Rens et al. (2006, p. 30) note, moreover, that the boundaries between legitimate and illegitimate copying are not always clear. Examining case studies of access to educational materials in parts of Africa, they add that ‘the monopolies granted by the copyright system (and access gaps created as a result) pose a moral challenge for the blanket treatment’ of unauthorized reproduction as an ‘illegitimate practice’ (ibid.).

Is there a systematic approach to consider and evaluate the social impact of IP, in order to better calibrate national policies and laws according to local contexts and needs? Searching for frameworks to evaluate existing policies and arguments for IP in terms of their underlying assumptions on human welfare, the legal literature has turned increasingly to the human development approach (see e.g. Sunder 2006; Chon 2006; Aoki 2007; Dutfield & Suthersanen 2007; Sunder 2008; Gollin 2008; de Beer 2009). A key component of the human development approach is that of viewing well-being in terms of enhancing capabilities, in lieu of other concepts of well-being such as utility (happiness, desire fulfilment) or opulence (income, commodity command) [see Appendix A for these distinctions]. This ‘capability approach’ developed by Sen, Nussbaum and others over the past two decades is introduced in the next section along with some ideas for application within the context of IP and innovation. It is qualified, at the same time, that the capability approach is only one aspect of the human development paradigm. The latter also reflects some elements from the ‘basic needs’ approach to development which emerged in the 1970s (see Haq 1995; Stewart 1996; Qizilbash 2006) and has evolved to embrace concepts of fundamental freedoms and human rights (see Section 4; UNDP 2000).

### 3. Capabilities and innovation

As highlighted by Robeyns (2005, p. 93), ‘the capability approach is a broad normative framework for the evaluation and assessment of individual well-being and social arrangements, the design of policies, and proposals about social change in society’ (see also Comim, Qizilbash & Alkire [eds.] 2008; Chiappero-Martinetti [ed.] 2009). According to Robeyns, the main characteristics of the capability approach are its highly interdisciplinary character, and the focus

on plural or multidimensional aspects of well-being (*ibid.*, p. 93). This approach highlights the difference between means and ends, and between substantive freedoms ('capabilities') and outcomes ('achieved functionings') (*ibid.*). These concepts are briefly introduced here. While the capability approach has been applied in many different fields (most notably, development),<sup>76</sup> little literature to date deals with its application to innovation and IP. This section aims to bridge some of the gaps, while highlighting further areas for research.

A common thread between the capability approach and the basic needs approach to development is the critique that income measures alone cannot capture the multidimensional nature of human well-being. Such limitations were recognized early in the inception of national income accounting (McGillivray 2007, p. 6; Hicks and Streeten 1979, p. 568). Sen (1999, pp. 69–70) observes that:

At the practical level, perhaps the biggest difficulty in the real-income approach to well-being lies in the diversity of human beings. Differences in age, gender, special talents, disability, proneness to illness, and so on can make two different persons have quite divergent opportunities of quality life even when they share exactly the same commodity bundle. Human diversity is among the difficulties that limit the usefulness of real-income comparisons for judging different persons' respective advantages.

The basic needs approach placed emphasis on the fact that 'the poor require access to certain basic goods and services, and that income may not be a necessary or sufficient condition for their provision' (Harkness 2006, pp. 88–89). Sen's capability approach looks beyond income measures and access to commodities to focus on how human beings are able to 'function'.<sup>77</sup> As Sen (1999, pp. 74–75) explains:

The concept of 'functionings', which has distinctly Aristotelian roots, reflects the various things a person may value doing or being...A person's 'capability' refers to the alternative combinations of functionings that are feasible for her to achieve. Capability is thus a kind of freedom: the substantive freedom to achieve alternative functioning combinations (or, less formally put, the freedom to achieve various lifestyles).

The distinctions between capabilities and other measures of well-being such as income, commodity command or utility are helpfully summarized by Clark (2006, pp. 33–35; see extract in Appendix A). Sen's own articulation of the human development approach in recent years has emphasized the concept of 'development as freedom'.<sup>78</sup> While Sen has given examples of 'essential capabilities' and 'freedoms' in his writings, he has avoided endorsing a unique list of capabilities as objectively valid (see Sen 1993, p. 47; Clark 2006, p. 35).<sup>79</sup> Nussbaum, in contrast, sets out to list 'core' capabilities, the lack of which makes it difficult for an individual to be functioning in a 'truly human way' (Nussbaum 2000, p. 72; see Chapter 6). The idea of this list is not to enclose the broad and evolving range of human capabilities within strait-jackets nor to provide weights to each item, but to offer a framework for constitutional reforms within a country to facilitate human development.<sup>80</sup> In Gasper's (2007, p. 55) words, Nussbaum's list 'consciously builds a basis for core rights, as parts of a legal constitution, to give a set of entrenched priorities without which we would leave too much open to domination by the powerful'.

The capability approach makes an analytical distinction between the means and the ends of well-being and development. Only the ends have intrinsic importance, whereas means are ‘instrumental to reach the goal of increased well-being, justice and development’ (Robeyns 2005, p. 95). According to the capability approach, these ends should be conceptualized ‘in terms of people’s capabilities to function, that is, their effective opportunities to undertake the actions and activities that they want to engage in, and be whom they want to be’ (ibid.). However, as Robeyns (2005, p. 95) points out, in concrete situations these distinctions between means and ends often blur, since some ends are simultaneously also means to other ends (see also Clark 2002, 2005). She provides the example of the capability of ‘being in good health’, which is not only an end in itself, but also a means to other capabilities such as the capability to work. Another commonly cited example of a capability key to the attainment of other capabilities is the capability of being literate or educated. The different capabilities considered in chapters within this book are thus interlinked.

The means and ends analysis is a familiar one in IP-related contexts. Those who take a consequentialist view of IP would argue that IP should be viewed as a means towards achieving larger social goals, although they may articulate these goals differently.<sup>81</sup> For example, the IEGBIIP Report envisages a ‘New IP’ era where IP is viewed as a ‘servant to, and not master of, values such as equity and fairness’ (IEGBIIP 2008, p. 14).<sup>82</sup> Notably, one of the principles set out in the Adelphi Charter on Creativity, Innovation and Intellectual Property,<sup>83</sup> is that ‘laws regulating intellectual property must serve as means of achieving creative, social and economic ends and not as ends in themselves’. The Charter thus emphasizes an evidence-based approach to IP policy and law-making.<sup>84</sup> This is echoed by commentators who clarify that the success of IP regimes is to be measured by their impact on human development (i.e. the achievement of the ends) and not by economic growth figures alone or often-used indicators of ‘innovation’ such as the number of patents filed in a country (i.e. measuring at most the means; see Chon 2006; IEGBIIP 2008). Discussing the implementation of the WIPO Development Agenda, de Beer (2009, p. 5) argues that: ‘Economic growth remains an essential indicator of development; however, it is no longer accepted as the only relevant metric for measuring progress’.

Within a utilitarian approach to IP, societal goals are typically articulated in terms of the maximization of ‘utility’, understood usually as happiness or pleasure, and in some cases as the fulfilment of desires (see Sen 1999, p. 67). This interpretation of utilitarianism underlines much legal thinking (Sunder 2006). Chon (2006, p. 2832) notes, on the other hand, that ‘in the parallel universe of development economics things have moved on in past decades’. In development studies, for example, the capability approach as ‘an alternative to raw utilitarianism in the measurement of social welfare’ has gained important ground (ibid.).<sup>85</sup> Clark (2006, p. 32) observes that ‘over the last decade Amartya Sen’s “capability approach” has emerged as the leading alternative to standard economic frameworks for thinking about poverty, inequality and human development generally’. Distinguishing the capability approach from utility-based approaches to measuring welfare, Sen (1993, p. 48) explains:

In fact, the more challenging part of the claim in favour of the capability approach lies in what it denies. It differs from the standard utility-based approaches in not insisting that we must value *only happiness* (and sees, instead, the state of being happy as one among several objects of value), or *only desire fulfilment* (and takes, instead, desire as useful but

imperfect evidence – frequently distorted – of what the person herself values). (Original emphasis)

In regarding the ‘capability set’ as the primary space for evaluating human well-being,<sup>86</sup> the capability approach is also distinct from other, non-utilitarian, approaches to well-being which emphasize resources or primary goods as value-objects (Sen 1993, pp. 38, 48). The capability approach views resources as relevant ‘only in terms of the impact [they have] on functionings and capabilities’ (ibid.).<sup>87</sup> Likewise, variables relating to primary goods are considered ‘only derivatively and instrumentally’ within the capability approach and ‘only to the extent that these goods promote capabilities’ (ibid.).

While the utilitarian theory for copyright, as discussed earlier, assumes that the public ‘benefits’ or gains ‘utility’ by the sheer expansion of works incentivized by copyright, a human development perspective would go further in examining the types of works incentivized by market dynamics and how they impact human capabilities. As Sen (1999, pp. 60–63) acknowledges, utilitarian arguments have the merit of drawing attention to the ‘*well-being* of the people involved when judging social arrangements and their results’ even if utility-centred approaches may be inadequate in evaluating these social arrangements. At the same time, according to Sen, utilitarian arguments are limited by their ‘distributional indifference’ and the ‘neglect of rights, freedoms and other non-utility concerns’ (ibid., p. 62).<sup>88</sup> Within the IP context, Sunder (2007, p. 122) observes that:

The traditional utilitarian understanding of intellectual property focuses on incentivizing the creation of more knowledge goods...But utilitarianism does not ask who makes the goods or whether the goods are fairly distributed to all who need them. A broader understanding of intellectual property, as both an end and means of development, recognizes the importance of not just producing more knowledge goods, but also of participating in the process of knowledge creation.

Since it is the market which ultimately determines demand and incentivizes supply of many IP-protected goods, it may be argued moreover that the nature of what is incentivized by this system may be significantly skewed by disparities in purchasing power. This is evidenced, for example, by trends relating to so-called ‘neglected or resurgent diseases’ prevalent in developing countries (or poor sectors of developed countries) that have presented a lacuna in private pharmaceutical investment – a gap increasingly filled through philanthropic initiatives, intergovernmental programmes and public-private partnerships (see Chapter 2). Arguing for the provision of public goods beyond what the private markets can foster, Sen (1999, p. 128) has observed that: ‘The rationale of the market mechanism is geared to private goods (like apples and shirts), rather than to public goods (like the malaria-free environment)’. While innovations can improve human well-being, the argument for IP as an incentive for innovation begs the question of whether the products or works incentivized under the IP system are ultimately relevant to building the capabilities of individuals and communities around the world. Is there some mismatch between goods currently incentivized by IP and the needs and priorities of developing countries (and LDCs) for human development? This is explored in detail in the various chapters of this book dealing with health, agriculture, education and the protection of cultural endeavour and heritage. Chapter 3 suggests, for example, that the agricultural



technology and food products currently supported by IP regimes including patents and PVP may in certain contexts unhinge traditional agricultural systems and farming practices more suited to local environments (see also Tansey 2008). Discussing implications of IP for education and other capabilities in developing countries, Chon (2007, p. 476) observes that:

The model of development of freedom centres human capability through the provision of basic needs in the areas of education, health, and nutrition, because these lead to the ‘enhancement of human freedom, which is both the main object and the primary means of development’ (Sen 1999)...Simply put, the growth model of development prioritizes the innovation mandate of intellectual property, while the freedom model of development emphasizes its multi-dimensional aspects. In the latter paradigm, intellectual property not only stimulates innovation but also protects knowledge goods that enhance human capabilities, which in turn build national capacity for innovation.<sup>89</sup>

Other legal commentators are increasingly engaging the language of capabilities and freedoms in their analysis of IP. Gollin (2008, p. 343) suggests that ‘the IP system, in driving the innovation cycle, serves at least in part as an instrument of individual freedom and choice’. In his opinion:

Creators choose whether to give their innovations away or to restrict access with IP rights. For example, the individual freedom inherent in the IP system gave rise to open access communities in software, science, and entertainment, which are expressions of choice by many individuals. The owner of IP rights can trade these assets with others, and acquire more in the process of pushing an innovation out into society. On the other hand, the exclusivity of IP rights restricts the freedom of choice of those who seek access to an innovation. A creator or competitor who lacks access to an innovation lacks the freedom to use it as she chooses...The freedom of an IP owner to exclude others has limits. (Ibid.)

The challenge for policymakers is in drawing the limits to these exclusive rights. In a working paper, *Capabilities, Spillovers, and Intellectual Progress: A New IP Consequentialism?*, Frischmann explores how the capability approach might intersect with the spillovers theory.<sup>90</sup> He argues that IP can be and is used to *leverage* the non-rival nature of information and promote capabilities (ibid.). Importantly, his approach makes a distinction between the first-party and third-party effects of capabilities and suggests that the latter are unappreciated in the literature (ibid.).<sup>91</sup> He observes that ‘[I]aw-supported or facilitated spillovers can be seen, at least in an important subset of cases, as social investments in the capabilities of others’. As he explains:

Some social investments in capabilities are, or may be or should be, made through legal structures that allocate freedoms to access and use resources that are necessary to participation in certain types of activities. These ‘investments’ may constitute spillovers in themselves because the legally allocated freedoms constitute benefits (either real value or option value) for resource users that are external to resource production and exchange. The participatory capabilities may include basic capabilities essential to survival and a good life but perhaps also more advanced capabilities essential to a productive and/or engaged life.<sup>92</sup> (Ibid.)

Thinking in terms of ‘social investments in capabilities’ may provide policy-makers with additional parameters, for example, in determining the boundaries of exceptions or defences such as ‘fair use’ in copyright (or exemptions under patent law). While conventional IP policies tend to approach IP-protected intangible works in terms of markets and commodities to which public access needs to be balanced with private proprietary rights, what matters for human development is whether such access is provided in a way that enhances human capabilities. Frischmann suggests that:

As fair use illustrates rather well, some IP-supported or facilitated spillovers can be seen as direct social investments in the capabilities of others. Fair use allows for some unlicensed use and thus enhances the capabilities of users to participate in activities like criticism, commentary, news reporting, teaching, scholarship, and research. In essence, fair use reflects a social investment in public capabilities that is accomplished *by* spillovers – third party (user) benefits external from the initial production decision or subsequent transactions...Arguably, the social investment made via fair use is not only accomplished *by* spillovers but also to some degree, *for* spillovers – social benefits from being part of a more capable community as well as social benefits associated with the user-generated public good outputs (e.g. more ideas and expression). (Ibid.; original emphasis)

The capabilities facilitated by fair use include those for self-expression. In discussing her list of capabilities essential to human well-being, Nussbaum (2000, p. 78) mentions capabilities relating to ‘senses, imagination and thought’, and whether one is ultimately ‘able to use imagination and thought in connection with experiencing and producing self-expressive works and events of one’s own choice, religious, literary, musical, and so forth’. Apart from the more-often discussed capabilities (e.g. in relation to health, food security or education), we thus need to take into consideration the enhancement of other related capabilities including those for creative and free expression. Where the line is drawn, for example, within copyright exceptions or defences (including fair use or fair dealing) for parodies, satires and other arguably transformative uses of copyright-protected works, will have a palpable impact on the expressive capabilities of third parties (see further Chapter 8).

That IP consists of rights over intangible creations of the mind<sup>93</sup> means that it can never quite be divorced from considerations of cultural liberty and free expression. Arguably, as human development advances over time in any society, the exceptions to IP ought to evolve to meet the more and more sophisticated needs for self-expression of its populace. This would require a continual re-evaluation of IP as a mechanism for individuals not only to access the fruits of innovation of others, but also towards their own engagement in (not so visible and thus less quantifiable) creative processes and knowledge building (see further Sunder 2008; Netanel 2008). This approach ties in with a regard of individuals not simply as passive ‘beneficiaries’ of economic and social processes – ‘patients’ as Sen has put it<sup>94</sup> – but also as ‘agents’ of change (Alkire 2002; Clark 2006; Fukuda-Parr 2008). A strong case may be made, for example, for so-called user innovators as active and important contributors towards improvements in inventions attributed to others (see Strandburg 2008, 2009; Frischmann & Lemley 2006, pp. 116–117; OECD 2007) as, for example, a doctor who adapts and improves medical technology in daily

work with patients, and farmers who help to improve seeds (see Chapter 3). But the examples need not stop there. As discussed earlier in Section 2, the divide between creators and ‘consumers’ of IP-protected works are not clear-cut in many fields,<sup>95</sup> and the literature is increasingly pointing towards the role of social relations and networks in driving innovation. Within the context of the Internet, for example, a great deal of attention is being turned to ‘user participants’ as contributors to the creative economy (Howkins 2001; OECD 2007; United Nations 2008).

Cornish and Llewelyn (2003, p. 6) note that IPRs ‘protect applications of ideas and information of commercial value’. IP ownership enables some protagonists to exclude certain actions by other participants. In doing so, it arguably creates or upholds ‘value’ and the opportunity to trade certain information goods (see Gollin 2008, p. 39). Given that no ‘author’ and ‘inventor’ in fact starts from a blank sheet, but rather builds on collective knowledge, is there ultimately an element of arbitrariness (or pragmatism) where the law currently reserves to some participants ‘ownership’ of IPRs while rendering others in the chain of creation mere ‘users’ and members of the public?

Can thinking in terms of capabilities help to reorient IP policies towards a better recognition of social networks as drivers of innovation? Some of the ‘individualist’ orientation of the capability approach has itself come under significant scrutiny and questioning (see Evans 2002; Robeyns 2005; Stewart 2005; Ibrahim 2006; Deneulin 2008, p. 48; Alkire, Qizlbash & Comin 2008, pp. 6–7; Alkire 2008, pp. 34–41). Robeyns (2005, pp. 109–110) observes that:

[C]ontemporary mainstream economics is structurally unable to account for group membership on people’s well-being, and does not acknowledge the limits of individual rational agency. But is this also the case for the capability approach? While some capability theorists, like Sen (1999, 2002), have a great belief in people’s abilities to be rational and to resist social and moral pressure stemming from groups, other writers on the capability approach pay much more attention to the influence of social norms and other group-based processes on our choices and, ultimately, on our well-being (for example, Alkire 2002; Nussbaum 2000; Iversen 2003; Robeyns 2003). There is thus no reason why the capability approach would not be able to take the normative and constitutive importance of groups fully into account.<sup>96</sup>

While Sen (2002, pp. 84–85) concedes the ‘social dependence of individual capabilities’, Deneulin (2008, p. 110) suggests that ‘there remains a strong rationale for including irreducibly social goods in the informational basis of development for reasons that go beyond their intrinsic value to the lives of individuals’ (see Gore 1997). She focuses her discussion on the relevance to the capability approach of ‘structures of living together’, that is, ‘structures which belong to a particular historical community, which provide the conditions for individual lives to flourish, and which are irreducible to interpersonal relations and yet bound up with these’ (Deneulin 2008, p. 111). Exploring how social structures and social capital influence human capabilities,<sup>97</sup> Ibrahim (2006, p. 409) calls for ‘shifting the focus of the analysis from the individual to the collectivity’. Asserting that ‘all human capabilities are in fact socially dependent’, she emphasizes the need to integrate the concept of ‘collective capabilities’ into the analysis of capabilities (ibid., pp. 404, 409). She defines ‘collective capabilities’ as ‘newly generated capabilities attained by virtue of

[the] engagement [of individuals] in a collective action or their membership in a social network that helps them achieve the lives they value' (ibid., p. 404).<sup>98</sup>

Cross-disciplinary work adapting the capability approach to focus on 'group' and 'collective' capabilities<sup>99</sup> are relevant to our discussion of IP, not least if we are to take on board the role of communities (including those guided by customary practices) and other social networks in innovation. Discussing the concept of 'group' capabilities, Stewart (2005, p. 188) notes: '[I]n addition to the more individualistic capabilities a person may possess, their (often many) group affiliations affect their wellbeing...since people are essentially social their social networks form an important part of their total wellbeing'.<sup>100</sup> She suggests that groups are important to individual well-being and to enlargement of valuable capabilities in three ways: firstly, group membership and group achievements affect people's sense of well-being; secondly, groups are important instrumentally in determining efficiency and resource shares; and thirdly, groups influence values and choices and hence the extent to which individuals choose to pursue valuable capabilities for themselves and for others (ibid.).

While the capability approach offers some interesting avenues for considering the social impact of IP, further studies on the role of social networks and group dynamics in innovation may also help to illustrate the relevance of studying 'group' and 'collective' capabilities in discussing human well-being and development.

#### **4. Multiple ways of viewing development**

The human development approach is intertwined with various perspectives on development, many of which can contribute to a rethinking of welfare assumptions under IP law. Indeed, Sen (1993, p. 48) emphasizes the deliberate 'incompleteness' of the capability approach, which renders it 'consistent and combinable with several different substantive theories' and, arguably, value systems.<sup>101</sup> This qualification is particularly relevant in the context of IP and human development, where cultural perceptions not only of IP but also of property in general may vary (Alford 1995), and the priorities of stakeholders are differentiated both amongst and within countries. Indeed, differences in interpretation and selection of values (and thus what capabilities to give weight to in an evaluation of existing IP-related policies and structures) mark many ongoing debates surrounding IP. This renders the pluralist and multidisciplinary nature of the capability approach all the more relevant in IP-related contexts.

While the capability approach is a starting point for the present study, the different chapters attempt to combine ideas and frameworks from different disciplines on specific subjects relating to IP, in a commensurable and accessible way. The human development paradigm embraces many social theories and perspectives beyond the capability approach. Notably, several authors of this volume have equally looked to human rights to inform IP reforms (see especially Chapters 3, 4, 7 and 8).

##### **4.1. Rights-based and other approaches to development**

A human rights-based approach (HRBA) serves an important normative role in development policy, and has gradually been mainstreamed over the past decades into the programmes of

international development organizations. Before discussing what this ‘rights-based’ approach to development implies in the IP context, it is helpful to explore the linkages between human rights and human development goals.

Theorists approach the relationship between human development and human rights in different ways. Nussbaum (1997a; 2000, pp. 96–101; 2003), for example, holds the view that human rights might be seen in terms of the attainment of ‘combined capabilities’. Capabilities, as she sees them, extend over ‘the same terrain covered by both the so-called first-generation rights (political and civil liberties) and the so-called second-generation rights (economic and social rights)’ (2000, p. 97; see also 1997a). She adds that ‘all rights, understood as entitlements to capabilities, have material and social preconditions, and all require government action’ (1997b, p. 21). As Nussbaum (2000, p. 97) points out, ‘because the language of rights is well established, the defender of capabilities needs to show what is added by this new language’.<sup>102</sup> According to Sen, the two concepts – human rights and capabilities – go well together, ‘so long as we do not try to subsume either concept entirely within the territory of the other’ (2005, p. 163; 2004).<sup>103</sup>

Fukuda-Parr (2009, p. 80) observes that the fields of human rights and human development ‘have developed complementary sets of analytical tools and action approaches that can be deployed to meet the common goal of securing human dignity and freedom’. Drawing from Nussbaum’s comparison of capabilities with human rights, Fukuda-Parr explains that:

[W]e need the concept of capabilities and functionings to evaluate how societies are faring, to be able to make comparisons between the past and the present, between countries, and so on. The role of human rights on the other hand has a different focus, to help develop ethical norms that guide designs on institutional arrangements.<sup>104</sup> (Ibid., p. 96)

Significantly, the UNDP Human Development Reports treat human rights and human development as conceptually distinct but sharing a common vision and purpose – to secure the freedom, well-being and dignity of all people everywhere (see UNDP 2000, p. 1). Under this approach, the two frameworks are viewed as ‘mutually reinforcing’ (ibid.). Meanwhile, it has been observed that human rights and IP as bodies of law developed in ‘virtual isolation’ of each other (Helfer 2008; 2003, p. 48),<sup>105</sup> even though many ethical concerns relating to IP are closely connected to human rights and ideas of ‘natural rights’ have arguably influenced both bodies of law (see Afori 2004). Some commentaries emphasize the potential role for human rights to influence IP policy, legislation and interpretation (Afori 2004; Ovet 2006a; Haugen 2007b; Sun 2007). While an exhaustive description of human rights provisions relevant to IP is beyond the scope of this chapter, one might highlight the right to health (see Chapter 2),<sup>106</sup> the right to food (see Chapter 3),<sup>107</sup> the right to education (see Chapters 6 and 7)<sup>108</sup> and the right to freedom of expression (see Chapter 8). The latter right extends to the freedom to seek, receive and impart information and ideas of all kinds.<sup>109</sup> Equally relevant are human rights provisions and instruments dealing with so-called cultural rights, minority rights and indigenous peoples’ rights (see Chapters 4, 5 and 8).

Overlapping with these and other human rights is the right to development.<sup>110</sup> In its Declaration on the Right to Development, the UN General Assembly affirmed: ‘The right to

development is an inalienable human right by virtue of which every human person and all peoples are entitled to participate in, contribute to, and enjoy economic, social, cultural and political development, in which all human rights and fundamental freedoms can be fully realized' (Article 1).<sup>111</sup> States have the 'primary responsibility for the creation of national and international conditions favourable to the realization of the right to development' (Article 3).

The 'cultural rights' under human rights instruments are highly pertinent to IP, and some aspects are introduced here (see discussion in Chapter 8; Prott 1998; Donders 2007). Article 27(1) of the Universal Declaration of Human Rights of 1948 (UDHR)<sup>112</sup> states that: 'Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits'. The 'right of everyone to take part in cultural life' is reflected in Article 15(1)(a) of the International Covenant on Economic, Social and Cultural Rights of 1966 (ICESCR). The Committee on Economic, Social and Cultural Rights (CESCR) has recently published its General Comment No. 21<sup>113</sup> aimed at clarifying the nature of this right.<sup>114</sup> While the General Comment does not explicitly mention IPRs, some of its implications for IP-related topics are addressed in Chapters 5 and 8 of this book. The right to the enjoyment of the benefits of scientific progress and its applications is enshrined in Article 15(1)(b) of the ICESCR and is also the subject of significant scrutiny (Chapman 2002).

Whether IPRs can be viewed and justified as human rights in themselves has been a matter of keen debate (Idris 2004; Chapman 2002; Haugen 2005a, 2007a, 2007b; Helfer 2007; Gollin 2008). Much attention has focused on a number of provisions in human rights instruments protecting the 'material and moral interests' of authors. Article 27(2) of the UDHR provides that: 'Everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author'. This right is reiterated in Article 15(1)(c) of the ICESCR which refers to 'the right of everyone...to benefit from the protection of the moral and material interests resulting from any scientific, literary and artistic production of which he is the author'. The latter is a human right according to Resolution 2000/7 of the Sub-Commission on the Promotion and Protection of Human Rights:

The right to protection of the moral and material interests resulting from any scientific, literary or artistic production of which one is the author is, in accordance with article 27, paragraph 2, of the Universal Declaration of Human Rights and article 15, paragraph 1 (c), of the International Covenant on Economic, Social and Cultural Rights, *a human right, subject to limitations in the public interest*.<sup>115</sup> (Emphasis added)

While Article 27(2) of the UDHR and Article 15(1)(c) of the ICESCR have often been cited as justifications for IPRs such as copyright as a species of human rights (Idris 2003, p. 241; Hugenholtz & Okediji 2008), such a view has been challenged by General Comment No. 17 of the CESCR on Article 15(1)(c) of the ICESCR.<sup>116</sup> Emphatically distinguishing IPRs from the human right to the protection of moral and material interests of authors under Article 15(1)(c), the CESCR notes that:

The right of everyone to benefit from the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he or she is the author is a human right, which derives from the inherent dignity and worth of all persons.

This fact distinguishes article 15, paragraph 1 (c), and other human rights from *most legal entitlements recognized in intellectual property systems*. Human rights are fundamental, inalienable and universal entitlements belonging to individuals and, under certain circumstances, groups of individuals and communities. Human rights are fundamental as they are inherent to the human person as such, whereas intellectual property rights are first and foremost means by which States seek to provide incentives for inventiveness and creativity, encourage the dissemination of creative and innovative productions, as well as the development of cultural identities, and preserve the integrity.

(CESCR 2005, para. 1; emphasis added; see also para. 2)

General Comment No. 17 stresses (in para. 3) that ‘it is therefore important not to equate intellectual property rights with the human right recognized in article 15, paragraph 1 (c)’. Exploring the judicial nature of general comments by human rights committees such as the CESCR, Haugen (2007a, p. 55) notes that a general comment can never be an authoritative interpretation in accordance with Article 31 (para. 3) of the Vienna Convention on the Law of Treaties 1969, ‘simply as it does not involve the state parties’. At the same time, he points out that ‘a general comment must be considered to be the best effort to outline the content of specific provisions, carried out by an international body comprised of internationally recognized experts’. In his view, a general comment can be said to be the most authoritative clarification of a human rights provision (ibid.).

In referring to ‘entitlements’ belonging also to ‘groups of individuals and communities’, General Comment No. 17 leaves the door ajar for an interpretation of the protection of TK and cultural heritage as a matter of human rights (para. 3). Article 31(1) of the UN Declaration on the Rights of Indigenous Peoples (UNDRIP), adopted by the UN General Assembly in September 2007,<sup>117</sup> seems to go further in recognizing explicitly the right of indigenous peoples to protect their ‘intellectual property’ over their ‘cultural heritage, traditional knowledge and traditional cultural expressions’. Is the IP protection of TK and TCEs increasingly being framed as a part of human rights? While the UN Declaration is not, strictly speaking, legally binding on State Parties, it has significant normative value, and has already been incorporated into some national laws.<sup>118</sup> Wiessner (2009, p. 5) adds that some of the rights stated in the Declaration may already form part of customary international law, and ‘others may become the *fons et origo* of later-emerging customary international law’ (see also Anaya & Wiessner 2007).

Meanwhile, it is interesting to note that companies are also availing themselves of human rights recourse in some jurisdictions in relation to IP disputes. Exploring whether human rights law might be the ‘new innovation frontier’, Helfer (2008) discusses three recent cases<sup>119</sup> before the European Court of Human Rights (ECHR) confirming that IP falls within the scope of ‘possessions’ protectable under Article 1 of Protocol No. 1 to the European Convention on Human Rights 1950.<sup>120</sup> This provision has been likened to a ‘right to property’, though the latter remains controversial under international law (see Robertson & Merrills 1996, pp. 37, 125; Council of Europe 2007, p. 1).<sup>121</sup> Since the entitlement under this Article extends to ‘every natural or legal person’, companies can claim protection under this human rights provision. The latter was the case in *Anheuser-Busch Inc. v. Portugal*, for example, where the North American brewing company of ‘Budweiser’ beer claimed before the ECHR that the Portuguese government’s refusal to allow registration of ‘Budweiser’ as its trademark in Portugal was an

interference with the company's entitlement to 'peaceful enjoyment of possessions' under Article 1 of Protocol No. 1. While the ECHR found in that case that there was no interference with the applicant company's right to peaceful enjoyment of its possessions under Article 1 of Protocol No. 1, it nevertheless confirmed that the Article is 'applicable to intellectual property'.<sup>122</sup>

As Emberland (2006, p. 5) notes, 'there is a recurrent and highly contentious discussion on the appropriateness of opening up human rights law to corporate persons and the business community'.<sup>123</sup> This is a trend requiring more scrutiny. In discussing who might benefit from authors' rights as human rights, General Comment No. 17 (para. 17) explicitly excludes corporations and other legal entities from the scope of protection within Article 15(1)(c) of the ICESCR. Helfer (2007, p. 993) suggests that this 'represents a profound departure from Anglo American copyright laws, which have long recognized that legal entities can enjoy the status of authors of intellectual property products'. Despite other important clarifications intended in General Comment No. 17, debate also seems to linger over the relationship between human rights and IPRs.<sup>124</sup> While some commentators see limitations in a human rights approach to reforms surrounding IP (Hugenholtz & Okediji 2008), others have suggested ways forward (Ovett 2006a; Helfer 2007; Beutz Land 2009). The following remark by Okediji (2007, pp. 372–373) is pertinent in terms of future directions:

[T]he human rights narrative must seriously re-engage the content of specific human rights guarantees and determine whether intellectual property rights *as they exist and in light of the conditions that produced them* can ever truly be reconciled with the core principles of international human rights law, which requires state and global attention to local conditions affecting the realization of improved social conditions. (Original emphasis)

Meanwhile, there is room for more in-depth studies on how principles in human rights law to balance and reconcile different human rights really intersect with IP-related concerns. The Vienna Declaration and Programme of Action unanimously adopted by states at the (second) World Conference on Human Rights reiterates the principle that 'all human rights are universal, indivisible, interdependent and interrelated' (para. 5).<sup>125</sup> Some elements involved in approaching and balancing these elements are explored in Chapter 3 of this book focusing on the right to food. Among other things, the chapter discusses parameters and mechanisms for the implementation of human rights obligations by States (see also Donders 2007).

How potential conflicts between treaties (e.g. the ICESCR and the TRIPS Agreement) are resolved in international law is also relevant in apprehending the relationship between IP and human rights (see Haugen 2007b). Recognizing potential conflicts between human rights instruments and the TRIPS Agreement,<sup>126</sup> the Sub-Commission on the Promotion and Protection of Human Rights has emphasized (in its Resolution 2000/7) the 'primacy of human rights obligations over economic policies and agreements' (para. 3), requesting governments to 'integrate into their national and local legislations and policies, provisions, in accordance with international human rights obligations and principles, that protect the *social function* of intellectual property' (para. 5; emphasis added). Significantly, the Sub-Commission also requested intergovernmental organizations to integrate such provisions into their policies,



practices and operations (para. 6).<sup>127</sup> By drawing attention to the ‘social function’ of IP, the Sub-Commission invites further exploration of what that social function might entail in particular contexts. Linking this social function to the enhancement of specific human capabilities – such as the capabilities relating to education, health or free expression – may present a palpable approach towards IP policy and law reforms. It has also been argued that the concept of capabilities could help to shift the debate away from the apparent deadlock between those who currently support access to knowledge (A2K) as a human right and those who defend the moral and material interests of authors as human rights.<sup>128</sup>

As a Development Agenda is being elaborated, interpreted and implemented in WIPO in relation to IP, there is much that human rights and human development perspectives could do to enrich the discussion (see Ovet 2006a). This includes the ongoing work of human rights bodies on the right to development.<sup>129</sup> While promoting the ‘protection of IP throughout the world’ is within the mandate and objectives of WIPO,<sup>130</sup> the very purpose of a Development Agenda evolving at WIPO would be towards broadening the prevalent understanding of ‘IP and development’ to embrace further considerations of ethics and social justice, particularly in assessing the differential development needs and cultural contexts of countries and stakeholders. The Agreement between the UN and WIPO of 17 December 1974 refers to WIPO as ‘being responsible for taking appropriate action in accordance with its basic instrument, treaties and agreements administered by it, *inter alia*, for promoting creative intellectual activity and for the transfer of technology related to industrial property to the developing countries *in order to accelerate economic, social and cultural development*’ (Article 1; emphasis added). The Development Agenda is discussed further in Chapter 9. The human development perspective presents an important reminder that the term ‘development’ should not be equated simply with ‘economic development’ or ‘IP development’.<sup>131</sup>

At the same time, it is important to recognize that recent development thinking has moved on from a polarity between the ‘economic growth school’ and the so-called ‘people-centred’ school and has become more complex and nuanced (Fukuda-Parr 2008). It has been said that development strategies today combine elements from various discourses including those that emphasize economic growth and market efficiency as priority policy objectives, the basic needs approach and the human rights approach, as well as a ‘local first’ approach ‘committed to the communit[ies] and their livelihoods and priorities’ (Fukuda-Parr 2008, p. 251).<sup>132</sup> Noting how policy controversies tend to ‘coalesce around the tensions and contradictions between these discourses’, Fukuda-Parr suggests that:

Some of the most contentious issues in trade liberalization concern TRIPS and access to medicines, or child labour where there are contradictions among impacts on growth, basic needs of the poor, human rights such as decent work, and local livelihoods. Similarly, an issue like the new technology of genetically modified seeds is controversial because it can promote growth, but its impact on the basic needs of the poor is unclear, and it can disrupt local livelihood systems. (Ibid.)

While the different ‘development’ terminologies may seem a matter of semantics to some, they do frame and translate into development policies and programmes at the international and national levels with far-reaching impacts on lives and livelihoods. In UNDP’s recent report

on *Indigenizing development*, Ramos, Guerreiro Osorio and Pimenta (2009, p. 4) emphasize how ideas of ‘development with identity’ have sprung up as a reaction to perceived negative effects of some large-scale development efforts on particular segments of society, including in some contexts, indigenous peoples. A lot more work is needed to put these ideas into action (*ibid.*).<sup>133</sup> As Ramos et al. observe:

There are no easy ways to bring acceptable development to indigenous peoples. Besides the central issue of land rights, two other key problems must be tackled: information and participation. Development makes wide use of statistics and socioeconomic indicators...access to information is still the Achilles heel of indigenous development. The traditional indicators of development are mute about spheres of life that are important for indigenous peoples.<sup>134</sup> (*Ibid.*, p. 5)

These concerns come alive in many areas overlapping with IP, for example, in the intersection between IP and the preservation or legal protection of bio-cultural heritage, including the TK and TCEs of indigenous peoples and local communities; the clarification of farmers’ rights in agriculture (see Chapter 3); the access of poor sectors in both developed and developing countries to medicines (see Chapter 2); or the encouragement of local artists and creative endeavours to promote cultural diversity (see Chapters 5 and 8). To promote social justice, policies in IP and development must take on the concerns of both formal and informal sectors within nation states, and address the interests of marginalized groups. The protection of TK, for example, is a concern not only central to the sustainable livelihoods, cultural identity and survival of indigenous peoples, but also pertinent to other local communities such as farming communities (see Chapters 3 and 4). How community-based approaches to development can be further supported by concepts of capability expansion also remains an area to be fully explored. Indigenous peoples’ representatives have argued, for example, that human development definitions should extend to address the capabilities not only of ‘individuals and groups’, but also of ‘communities and peoples’.<sup>135</sup> They call for new concepts and disaggregated data on human development to reflect the well-being of indigenous peoples within national boundaries.<sup>136</sup>

Tracing the evolving concepts of development since the 1950s, Clark (2002, p. 19) further notes the increasing emphasis in international and national policies on ‘sustainability’ of development. The latter has been defined as ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’ (UN 1987, para. 1). Such models of development take into account inter-generational equity. The UNDP *Human Development Report 2007/2008*, by addressing issues relating to ‘climate change’, also explicitly recognizes that ‘development cannot be divorced from ecological and environmental concerns’ (UNDP 2007, p. 28). Thinking in terms of these various nuances in development strategies is particularly helpful in IP-related arenas, where examples of the different development approaches mentioned earlier are at work simultaneously in reshaping the IP landscape.<sup>137</sup> Significantly, these various ways of viewing development have all played a part in informing the Millennium Development Goals (MDGs) (see Chapter 6, Box 6.1).<sup>138</sup>

## 5. Conclusion: Re-posing the questions

In a world increasingly connected by trade, investments and ICTs, the social impact of IP is global. While recent decades have seen the linking of IP to the international trade regime through the TRIPS Agreement and FTAs, will the coming decades see clearer linkages between IP and human development?<sup>139</sup> The socio-economic implications of IPRs remain unclear in many contexts, and some organizations have used scenario planning as a tool to explore the future (see Chapter 9). These ‘future scenarios’ may perhaps help us to rethink current options relating to IP and human development. As is discussed throughout this book, technological changes and social processes are already challenging some of the preconceptions in IP law, perhaps altering the landscape for IP irrevocably. Ethical and other social issues are continually brought to the fore in IP-related policy and structural reforms.

While it is common for legislators and law courts in a country to speak of the ‘public’ and ‘public interest’ in IP legislation, how can these concepts be understood and applied in the global order?<sup>140</sup> Would viewing the ‘public’ as a ‘global public’ lead policymakers in developed countries, for example, to consider more directly the access issues facing the ‘public’ in developing countries while weighing the ‘private vs. public interest’ trade-offs in IP? Such policy rethinking on IP and innovation is needed, for example, to meet many of the challenges encapsulated in the MDGs (see Chapters 2 and 6). Noting that the global IP framework poses distributive choices with different inputs for decision-making than on the domestic level, Chon explores how one might construct a conceptual frame that ties IP law and policymaking together across national boundaries (see Chapter 6).

Reviewing IP from a human development perspective requires us to pose many more questions than those often heard within utilitarian arguments for IP protection. It invites us to explore, for example, who ultimately benefits from IP protection and who are the stakeholders marginalized in this system. What are the options in designing more equitable social arrangements? How do other areas of law (e.g. contract, competition or human rights law) interact with IP laws to affect authors’ rights and public access to IP-protected works? Is the incentive system for innovation presented by IP frameworks channelling funds and research attention to the areas needed by poorer sectors within both developing and developed countries (see Chapters 2–3)? Does the IP system recognize and encourage diversity in cultural traditions and endeavours (see Chapter 4–5)? This requires a closer look at the drivers of creativity, both pecuniary and non-pecuniary, in different sectors and contexts. It also means looking at the effects of poverty on access to ‘all spheres of cultural life’ (CESCR 2009, para. 38).

As economic welfare cannot ultimately be dismissed, but is part and parcel of human development, how should the differential socio-economic positions of stakeholders be addressed in designing IP policies to benefit a broad range of stakeholders? A nuanced approach – going beyond the ‘developed vs. developing country’ dichotomy – is needed to recognize not only the significant differences in innovation capabilities among developing countries but also the challenges common to marginalized stakeholders in different contexts. As Chon cogently queries in discussing user access to educational materials: ‘Do poor users in rich states have more in common with poor users in poor states than with the rich users in their own states?’ (see Chapter 6). While human rights and concepts of social justice present some parameters for IP reforms,

what other values should help shape IP norms in a world which is resiliently diverse and colourful?<sup>141</sup>

As discussed in this chapter, a human development approach provides some tools for evaluating the social impact of IP. Importantly, it also emphasizes the role of human agency in shaping social reforms and development (Sen 2003; Fukuda-Parr 2008, p. 237). Within IP-related contexts, the role of collective ‘agency’ can already be seen in the increasing presence of civil society debate and mobilization addressing the assumptions and distributional implications of IP laws. The evolving access to knowledge (A2K) movement is but one manifestation of these steady efforts for reform.<sup>142</sup> A multidisciplinary approach is especially needed for policy reforms relating to IP, given that property rights in the intangible can have both positive and negative impacts on nearly all aspects of human development.

## References

- Afori, O.F. 2004, ‘Human Rights and Copyright: The Introduction of Natural Law Considerations into American Copyright Law’, *Fordham Intellectual Property, Media & Entertainment Law Journal*, vol. 14, no. 2, pp. 497–565, available at: <http://law.fordham.edu/publications/articles/200flspub6402.pdf> (accessed 31 January 2009).
- Alford, W.P. 1995, *To Steal a Book Is an Elegant Offense: Intellectual Property Law in Chinese Civilization*, Stanford University Press, CA.
- Alkire, S. 2002, *Valuing Freedoms: Sen’s Capability Approach and Poverty Reduction*, Oxford University Press, Oxford.
- Alkire, S. 2008, ‘Using the Capability Approach: Prospective and Evaluative Analyses’, in F. Comim, M. Qizilbash & S. Alkire (eds.), *The Capability Approach: Concepts, Measures and Application*, Cambridge University Press, Cambridge.
- Alkire, S., Qizilbash, M. & Comim, F. 2008, ‘Introduction’, in F. Comim, M. Qizilbash & S. Alkire (eds.), *The Capability Approach: Concepts, Measures and Application*, Cambridge University Press, Cambridge.
- Anaya, J. & Wiessner, S. 2007, ‘The UN Declaration on the Rights of Indigenous Peoples: Towards Re-empowerment’, *JURIST Legal News and Research*, 3 October 2007, University of Pittsburgh, available at: <http://jurist.law.pitt.edu/forumy/2007/10/un-declaration-on-rights-of-indigenous.php> (accessed 10 January 2010).
- Aoki, K. 2007, ‘Distributive and Syncretic Motives in Intellectual Property Law (with Special Reference to Coercion, Agency, and Development)’, *UC Davis Law Review*, vol. 40, no. 3, pp. 719–801, available at: [http://lawreview.law.ucdavis.edu/issues/Vol40/Issue3/DavisVol40No3\\_Aoki.pdf](http://lawreview.law.ucdavis.edu/issues/Vol40/Issue3/DavisVol40No3_Aoki.pdf) (accessed 21 December 2008).
- Bates, M.J. 2005, ‘Information and Knowledge: An Evolutionary Framework for Information Science’, *Information Research*, vol. 10, no. 4, July 2005, available at: <http://informationr.net/ir/10-4/paper239.html> (accessed 15 March 2010).
- Belder, L. 2007, ‘Cultural Expressions: From Common Source to Public Domain’, in F. Macmillan (ed.), *New Directions in Copyright Law*, vol. 4, Edward Elgar, Cheltenham, UK, Northampton, MA.
- Benkler, Y. 2006, *The Wealth of Networks: How Social Production Transforms Markets and Freedom*, Yale University Press, New Haven and London, available at: [http://www.benkler.org/Benkler\\_Wealth\\_Of\\_Networks.pdf](http://www.benkler.org/Benkler_Wealth_Of_Networks.pdf) (accessed 21 December 2008).
- Beutz Land, M. (2009), ‘Protecting Rights Online’, *Yale Journal of International Law*, vol. 34, no. 1, Winter 2009, available at: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1295448](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1295448) (accessed 31 January 2010).
- Biagioli, M. 1999, ‘Aporias of Scientific Authorship: Credit and Responsibility in Contemporary Biomedicine’, in M. Biagioli (ed.), *The Science Studies Reader*, Routledge, New York and London.
- Boateng, B. 2005, ‘Square Pegs in Round Holes? Cultural Production, Intellectual Property Frameworks, and Discourses of Power’, in R.A. Ghosh (ed.), *CODE: Collaborative Ownership and the Digital Economy*, pp. 61–74, Massachusetts Institute of Technology Press, Cambridge, MA.

- Borges Barbosa, D., Chon, M. & Moncayo von Hase, A. 2008, 'Slouching Towards Development in International Intellectual Property', *Michigan State Law Review*, vol. 2007, no. 1, available at: SSRN: <http://ssrn.com/abstract=1081366> (accessed 01 August 2009).
- Bowrey, K. 2006, 'Alternative Intellectual Property? Indigenous Protocols, Copyleft and New Juridifications of Customary Practices', *Macquarie Law Journal*, vol. 6, pp. 65–95, available at: <http://www.austlii.edu.au/au/journals/MqLJ/2006/6.html> (accessed 21 December 2008).
- Boyle, J. 2003, 'The Second Enclosure Movement and the Construction of the Public Domain', *Law and Contemporary Problems*, vol. 66, no. 33, pp. 33–75.
- Brauneis, R. 2008, 'Copyright and the World's Most Popular Song', George Washington University Legal Studies Research Paper No. 1111624, available at: <http://ssrn.com/abstract=1111624> (accessed 15 March 2010).
- Bullard, A. 2005, 'Reinvidicando a los Piratas. ¿Es La Propiedad Intelectual un Robo?', *Latin American and Caribbean Law and Economics Association (ALACDE) Annual Papers*, Paper 7, University of California, Berkeley, available at: <http://repositories.cdlib.org/bple/alacde/7> (accessed 21 December 2008).
- Burk, D.L. & Lemley, M.A. 2002, 'Is Patent-Law Technology-Specific?', *Berkeley Technology Law Journal*, vol. 12, pp. 1155–1206, available at: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=349761#](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=349761#) (accessed 21 December 2008).
- Burk, D.L. & Lemley, M.A. 2003, 'Policy Levers in Patent Law', *Virginia Law Review*, vol. 89, no. 7, pp. 1575–1696.
- Campbell, M.S. & Anaya, J. 2008, 'The Case of the Maya Villages of Belize: Reversing the Trend of Government Neglect to Secure Indigenous Land Rights', *Human Rights Law Review*, vol. 8, pp. 377–399.
- Chander, A. & Sunder, M. 2004, 'The Romance of the Public Domain', *California Law Review*, vol. 92, pp. 1331–1373, available at: <http://ssrn.com/abstract=562301> (accessed 21 December 2008).
- Chang, H.J. 2002, *Kicking Away the Ladder – Development Strategy in Historical Perspective*, Anthem Press, London.
- Chapman, A.R. 2002, 'The Human Rights Implications of Intellectual Property Protection', *Journal of International Economic Law*, vol. 5, no. 4, pp. 861–882.
- Charlafti, I. 2008, 'Managing Patent Expiration in the Pharmaceutical Industry: The Story of the Purple Pill', *MAS-IP Diploma Papers & Research Report*, Paper 11, available at: <http://www.bepress.com/ndsip/reports/art11> (accessed 20 July 2009).
- Chiappero-Martinetti, E. (ed.) 2009, *Debating Global Society – Reach and Limits of the Capability Approach*, Fondazione Giangiacomo Feltrinelli.
- Chon, M. 2006, 'Intellectual Property and the Development Divide', *Cardozo Law Review*, vol. 27, pp. 2821–2912.
- Chon, M. 2007, 'Substantive Equality in International Intellectual Property Norm Setting and Interpretation', in D. Gervais (ed.), *Intellectual Property, Trade and Development: Strategies to Optimize Economic Development in a TRIPS-Plus Era*, Oxford University Press, New York.
- Clark, D.A. 2002, *Visions of Development: A Study of Human Values*, Edward Elgar, Cheltenham, UK.
- Clark, D.A. 2005, 'Sen's Capability Approach and the Many Spaces of Human Well-Being', *Journal of Development Studies*, vol. 41, no. 8, pp. 1339–1368.
- Clark, D.A. 2006, 'Capability Approach', in D.A. Clark (ed.), *The Elgar Companion to Development Studies*, Edward Elgar, Cheltenham, UK, pp. 32–45; earlier version published as Clark, D.A. 2006, 'The Capability Approach: Its Development, Critiques and Recent Advances', *Global Poverty Research Group Working Paper Series*, Paper 32, available at: <http://www.gprg.org/pubs/workingpapers/pdfs/gprg-wps-032.pdf> (accessed 21 December 2008).
- Comim, F., Qizilbash, M. & Alkire, S. (eds.) 2010, *The Capability Approach: Concepts, Measures and Application*, Cambridge University Press, Cambridge.
- Commission on Intellectual Property Rights (CIPR) 2002, *Integrating Intellectual Property Rights and Development Policy*, CIPR, London, available at: [http://www.iprcommission.org/papers/pdfs/final\\_report/CIPRfullfinal.pdf](http://www.iprcommission.org/papers/pdfs/final_report/CIPRfullfinal.pdf) (accessed 19 October 2008).
- Committee on Economic, Social and Cultural Rights (CESCR) 1999, *General Comment No. 12: The right to adequate food*, UN Doc. E/C.12/1999/5 (12 May 1999), available at: <http://www.unhcr.ch/tbs/doc.nsf/0/3d02758c707031d58025677f003b73b9> (accessed 3 February 2010).
- CESCR 2005, *General Comment No. 17: The right of everyone to benefit from the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he or she is the author* (art. 15, para. 1 (c)), UN Doc. E/C.12/GC/17 (12 January 2006), available at:

- [http://www.unhchr.ch/tbs/doc.nsf/7cec89369c43a6dfc1256a2a0027ba2a/03902145edbbe797c125711500584ea8/\\$FILE/G0640060.pdf](http://www.unhchr.ch/tbs/doc.nsf/7cec89369c43a6dfc1256a2a0027ba2a/03902145edbbe797c125711500584ea8/$FILE/G0640060.pdf) (accessed 3 February 2010).
- CESCR 2009, *General Comment No. 21: Right of everyone to take part in cultural life* (art. 15, para. 1 (a)), UN Doc. E/C.12/GC/21 (21 December 2009), available at: <http://www2.ohchr.org/english/bodies/cescr/comments.htm> (accessed 1 February 2010).
- Cornish, W.C. & Llewelyn, D. 2003, *Intellectual Property: Patents, Copyright, Trade Marks and Allied Rights*, 5th Edition, Sweet and Maxwell, London.
- Council of Europe 2007, 'The Right to Property under the European Convention on Human Rights: A Guide to the Implementation of the European Convention on Human Rights and Its Protocols', authored by A. Grgić, Z. Mataga, M. Longar & A. Vilfan, *Human Rights Handbooks No. 10*, Council of Europe, Strasbourg, available at: <http://echr.coe.int/NR/rdonlyres/97564258-437D-4FFD-A54D-2766DE255CCA/0/DG2ENHRHAND102007.pdf> (accessed 15 March 2010).
- Cullet, P. 2004, 'Intellectual Property Rights and Food Security in the South', *The Journal of World Intellectual Property*, vol. 7, no. 3, pp. 261–286.
- Darnton, R. 2009, 'Google and the Future of Books', *The New York Review of Books*, vol. 56, no. 2, available at: <http://www.nybooks.com/articles/22281> (accessed 1 June 2009).
- Davies, G. 2002, *Copyright and the Public Interest*, 2nd Edition, Sweet and Maxwell, London.
- de Beer, J. 2009, 'Defining WIPO's Development Agenda', in J. de Beer (ed.), *Implementing the WIPO Development Agenda*, Wilfrid Laurier University Press and International Research Development Centre, Ottawa, Canada.
- Deer, K. 2009, 'Indigenous ICT Taskforce', in U. Popova-Gosart (ed.), *Traditional Knowledge & Indigenous Peoples*, LIENIP and WIPO, Geneva, pp. 94–106, available at: [http://indigenousspeoplesissues.com/images/stories/TEK\\_IP\\_WIPO.pdf](http://indigenousspeoplesissues.com/images/stories/TEK_IP_WIPO.pdf) (accessed 6 March 2010).
- Deneulin, S. 2008, 'Beyond Individual Freedom and Agency: Structures of Living Together in Sen's Capability Approach', in F. Comim, M. Qizilbash & S. Alkire (eds.), *The Capability Approach: Concepts, Measures and Application*, Cambridge University Press, Cambridge, pp. 105–124.
- Derclaye, E. 2008, *The Legal Protection of Databases*, Edward Elgar, Cheltenham, UK.
- Dinwoodie, G.B. & Dreyfuss, R. 2004, 'TRIPS and the Dynamics of Intellectual Property Lawmaking', *Case Western Reserve Journal of International Law*, vol. 36, pp. 95–122, available at: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=616664](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=616664) (accessed 21 December 2008).
- Dinwoodie, G.B. & Dreyfuss R.C. 2006, 'Patenting Science: Protecting the Domain of Accessible Knowledge', in L. Guibault & P.B. Hugenholz (eds.), *The Future of the Public Domain in Intellectual Property: Identifying the Commons in Information Law* 191, Klumer Law International BV, The Netherlands, available at: [http://works.bepress.com/graeme\\_dinwoodie/26/](http://works.bepress.com/graeme_dinwoodie/26/) (accessed 10 July 2009).
- Donders, Y. 2007, 'The Legal Framework of the Right to Take Part in Cultural Life', in Y. Donders & V. Volodin (eds.), *Human Rights in Education, Science and Culture: Legal Developments and Challenges*, United Nations Educational, Scientific and Cultural Organization (UNESCO) and Ashgate Publishing, Paris.
- Donders, Y. & Volodin, V. (eds.) 2007, *Human Rights in Education, Science and Culture: Legal Developments and Challenges*, UNESCO and Ashgate Publishing, Paris.
- Drahos, P. 1996, *A Philosophy of Intellectual Property*, Aldershot, Dartmouth, UK.
- Drahos, P. & Braithwaite, J. 2002, *Information Feudalism – Who Owns the Knowledge Economy?*, Earthscan, London.
- Ducor, P. 1999, 'Research Tools Patents and Experimental Use Exemption: A No-Win?', *Nature Biotechnology*, vol. 17, pp. 1027–1028.
- Dutfield, G. 2003, *Intellectual Property Rights and the Life Science Industries: A Twentieth Century History*, Ashgate, Aldershot, UK.
- Dutfield, G. 2006, 'Protecting Traditional Knowledge: Pathways to the Future', *ICTSD Issue Paper No. 16*, International Centre for Trade and Sustainable Development (ICTSD), available at: <http://www.iprsonline.org/unctadictsd/docs/Graham%20final.pdf> (accessed 15 March 2010).
- Dutfield, G. 2009, *Intellectual Property Rights and the Life Science Industries: Past, Present and Future*, World Scientific Publishing, Singapore.
- Dutfield, G. & Suthersanen, U. 2007, 'Innovation and Development', in U. Suthersanen, G. Dutfield & K.B. Chow (eds.), *Innovation without Patents: Harnessing the Creative Spirit in a Diverse World*, Edward Elgar, Cheltenham, UK.
- Dutfield, G. & Suthersanen, U. 2008, *Global Intellectual Property Law*, Edward Elgar, Cheltenham, UK.

- Eide, A. 2007, 'Interdependence and Indivisibility of Human Rights', in Y. Donders & V. Volodin (eds.), *Human Rights in Education, Science and Culture: Legal Developments and Challenges*, UNESCO and Ashgate Publishing, Paris.
- Emberland, M. 2006, *The Human Rights of Companies: Exploring the Structure of ECHR Protection*, Oxford University Press, New York.
- Evans, P. 2002, 'Collective Capabilities, Culture and Amartya Sen's Development as Freedom', *Studies in Comparative International Development*, vol. 37, no. 2, pp. 54–60.
- Fisher, W. 2001, 'Theories of Intellectual Property', in S.R. Munzer (ed.), *New Essays in the Legal and Political Theory of Property*, Cambridge University Press, New York, pp. 168–200, available at: <http://www.law.harvard.edu/faculty/tfisher/iptheory.html> (accessed 12 May 2009).
- Frey, B.S. & Stutzer, A. 2006, 'Should We Maximize National Happiness?', *Institute for Empirical Research in Economics, Working Paper No. 306*, University of Zurich, Zurich, Switzerland.
- Fitzgerald, B.F. 2008, 'Copyright 2010: The Future of Copyright', *European Intellectual Property Review*, vol. 30, no. 43, available at: <http://eprints.qut.edu.au/13305/1/13305.pdf> (accessed 27 December 2008).
- Frischmann, B.M. & Lemley, M.A. 2006, 'Spillovers', *Columbia Law Review*, vol. 100, no. 2, available at: <http://ssrn.com/abstract=898881> (accessed 27 December 2008).
- Fukuda-Parr, S. 2003a, 'The Human Development Paradigm: Operationalizing Sen's Ideas on Capabilities', *Feminist Economics*, vol. 9, nos. 2–3, pp. 301–317.
- Fukuda-Parr, S. 2003b, 'Rescuing the Human Development Concept from the Human Development Index: Reflections on a New Agenda', in S. Fukuda-Parr & A.K. Shiva Kumar (eds.), *Readings in Human Development*, Oxford University Press, New Delhi.
- Fukuda-Parr, S. 2008, 'The Intellectual Journey Continues: Today's Global Agenda and the New Frontiers', in K. Haq & R. Ponzio (eds.), *Pioneering the Human Development Revolution: An Intellectual Biography of Mahbub ul Haq*, Oxford University Press, New Delhi.
- Fukuda-Parr, S. 2009, 'Human Rights and Human Development', in K. Basu & R. Kanbur (eds.), *Arguments for a Better World: Essays in Honour of Amartya Sen*, vol. 2, Oxford University Press, New York.
- Ghosh, R.A. & Soete, L. 2006, 'Information and Intellectual Property: The Global Challenges', *United Nations University – Maastricht Economic and Social Research and Training Centre on Innovation and Technology (UNU-MERIT) Working Paper Series #2006–029*, available at: <http://www.merit.unu.edu/publications/wppdf/2006/wp2006–029.pdf> (accessed 27 December 2008).
- Ginsburg, J. 2007, "'Une Chose Publique"? The Author's Domain and the Public Domain in Early British, French and US Copyright Law', in P. Torremans (ed.), *Copyright Law: A Handbook of Contemporary Research*, Edward Elgar, Cheltenham, UK.
- Gold, E.R. & Morin, J.F. 2009, 'From Agenda to Implementation: Working Outside the WIPO Box', in J. de Beer (ed.), *Implementing the WIPO Development Agenda*, Wilfrid Laurier University Press and International Development Research Centre (IDRC), Ottawa.
- Gollin, M.A. 2008, *Driving Innovation: Intellectual Property Strategies for a Dynamic World*, Cambridge University Press, New York.
- Gore, C. 1997, 'Irreducible Social Goods and the Informational Basis of Amartya Sen's Capability Approach', *Journal of International Development*, vol. 9, no. 2, pp. 235–250.
- Gould, D.M. & Gruben, W.C. 1996, 'The Role of Intellectual Property Rights in Economic Growth', *Journal of Development Economics*, vol. 48, no. 2, March 1996, pp. 323–350.
- Guibault, L. 2002, *Copyright Limitations and Contracts: An Analysis of the Contractual Overridability of Limitations on Copyright*, *Information Law Series*, vol. 9, Kluwer Law International, London, The Hague and Boston.
- Guibault, L. & Hugenholtz, P.B. 2003, 'The Nature and Scope of Limitations and Exceptions to Copyright and Neighbouring Rights with regard to General Interest Missions for the Transmission of Knowledge: Prospects for their Adaptation to the Digital Environment', *Copyright Bulletin*, December 2003, UNESCO.
- Haq, M. 1995, *Reflections on Human Development*, Oxford University Press, New York.
- Haq, K. & Jolly, R. 2008, 'Global Development Policy, Poverty Alleviation, and North-South Relations', in K. Haq & R. Ponzio (eds.), *Pioneering the Human Development Revolution: An Intellectual Biography of Mahbub ul Haq*, Oxford University Press, New Delhi.
- Haq, K. & Ponzio, R. (eds.) 2008, *Pioneering the Human Development Revolution: An Intellectual Biography of Mahbub ul Haq*, Oxford University Press, New Delhi.
- Harkness, S. 2007, 'Social and Political Indicators of Human Well-being', in M. McGillivray (ed.), *Human Well-being: Concept and Measurement*, *Studies in Development Economics and Policy*, United Nations

- University – World Institute for Development Economics Research (UNU-WIDER), Palgrave Macmillan, London.
- Harlow, C. 1999, 'Access to Justice as a Human Right: The European Convention and the European Union', in P. Alston (ed.), *The EU and Human Rights*, Oxford University Press, New York, pp. 195–197.
- Haugen, H.M. 2005a, 'Intellectual Property – Rights or Privileges?', *Journal of World Intellectual Property*, vol. 8, no. 4, pp. 445–458.
- Haugen, H.M. 2005b, 'Traditional Knowledge and Human Rights', *Journal of World Intellectual Property*, vol. 8, no. 5, pp. 663–677.
- Haugen, H.M. 2007a, 'General Comment No. 17 on Authors' Rights', *Journal of World Intellectual Property*, vol. 10, no. 1, pp. 53–69.
- Haugen, H.M. 2007b, 'Patent Rights and Human Rights: Exploring Their Relationships', *Journal of World Intellectual Property*, vol. 10, no. 2, pp. 97–124.
- Helfer, L.R. 2003, 'Human Rights and Intellectual Property: Conflict or Coexistence?', *Minnesota Intellectual Property Review*, vol. 5, pp. 47–61.
- Helfer, L.R. 2007, 'Toward a Human Rights Framework for Intellectual Property', *U.C. Davis Law Review*, vol. 40, pp. 971–1020, available at: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=891303](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=891303) (accessed 27 October 2009).
- Helfer, L.R. 2008, 'The New Innovation Frontier? Intellectual Property and the European Court of Human Rights', *Harvard International Law Journal*, vol. 49, no. 1, pp. 1–52, available at: <http://www.harvardilj.org/attach.php?id=137> (accessed 27 December 2008).
- Hicks, N. & Streeten, P. 1979, 'Indicators of Development: The Search for a Basic Needs Yardstick', *World Development*, vol. 7, no. 6, pp. 567–580.
- Hinze, G. 2008, 'Making Knowledge Accessible Across Borders: The Case for Mandatory Minimum International Copyright Exceptions and Limitations for Education, Capacity Building and Development', *Electronic Frontier Foundation*, available at: <http://www.eff.org/files/eff-making-knowledge-accessible-whitepaper.pdf> (accessed 18 January 2009).
- Howkins, J. 2001, *The Creative Economy: How People Make Money from Ideas*, Penguin, London.
- Hughenoltz, P.B. & Okediji, R.L. 2008, *Conceiving an International Instrument on Exceptions and Limitations to Copyright*, Institute for Information Law University at Amsterdam and University of Minnesota Law School, available at: <http://www.ivir.nl/publicaties/hughenoltz/finalreport2008.pdf> (accessed 18 January 2009).
- Ibrahim, S.S. 2006, 'From Individual to Collective Capabilities: The Capability Approach as a Conceptual Framework for Self-help', *Journal of Human Development and Capabilities*, vol. 7, no. 3, pp. 397–416.
- Idris, K. 2003, *Intellectual Property: A Power Tool for Economic Growth*, World Intellectual Property Organization (WIPO), Publication, No. 888.
- Indigenous Peoples' International Centre for Policy Research and Education (TEBTEBBA) 2008, *Indicators Relevant for Indigenous Peoples: A Resource Book*, TEBTEBBA, Baguio, Philippines.
- Ingold, T. 2000, *The Perception of the Environment: Essays in Livelihood, Dwelling and Skill*, Routledge, London and New York.
- International Centre for Trade and Sustainable Development (ICTSD) 2007, 'WIPO Members Agree on Development Agenda', *Bridges*, no. 4, p. 19, available at: <http://www.iprsonline.org/ictsd/news/bridges11-4.pg19.pdf> (accessed 27 December 2008).
- International Expert Group on Biotechnology, Innovation and Intellectual Property (IEGBIIP) 2008, *Towards a New Era of Intellectual Property: From Confrontation to Negotiation*, available at: [http://www.theinnovationpartnership.org/data/ieg/documents/report/TIP\\_Report\\_E.pdf](http://www.theinnovationpartnership.org/data/ieg/documents/report/TIP_Report_E.pdf) (accessed 27 December 2008).
- Iversen, V. 2003, 'Intra-household Inequality: A Challenge for the Capability Approach?', *Feminist Economics*, vol. 9, no. 2–3, pp. 93–115.
- Jefferson, T. 1813, 'Thomas Jefferson to Isaac MacPherson, August 13, 1813', *The Founder's Constitution Web Edition*, vol. 3, article 1, section 8, clause 8, document 12, available at: [http://press-pubs.uchicago.edu/founders/documents/a1\\_8\\_8s12.html](http://press-pubs.uchicago.edu/founders/documents/a1_8_8s12.html) (accessed 27 December 2008).
- Kingdon, G.G. & Knight, J. 2006, J. 'Subjective Well-Being Poverty vs. Income Poverty and Capabilities Poverty?', *Journal of Development Studies*, vol. 42, no. 7, pp. 119–1224.
- Laddie, H. 1996, 'Copyright: Over-strength, Over-regulated, Over-rated?', *European Intellectual Property Review*, vol. 18, no. 5, pp. 253–260.



- Laddie, H., Prescott, P., Vitoria, M., Speck, A. & Lane, L. 2000, *The Modern Law of Copyright and Designs*, 3rd Edition, Butterworths: London, Edinburgh and Dublin.
- Laddie, H. 2002, 'Foreword', *Integrating Intellectual Property Rights and Development Policy*, CIPR, London, available at: [http://www.iprcommission.org/papers/pdfs/final\\_report/CIPRfullfinal.pdf](http://www.iprcommission.org/papers/pdfs/final_report/CIPRfullfinal.pdf) (accessed 19 October 2008).
- Landes, W.M. & Posner R.A. 1989, 'An Economic Analysis of Copyright Law', *Journal of Legal Studies*, vol. 18, no. 2, pp. 325–363, available at: <http://cyber.law.harvard.edu/IPCoop/89land1.html> (accessed 27 December 2008).
- Landes, W.M. & Posner, R.A. 2003, *The Economic Structure of Intellectual Property Law*, Harvard University Press, Cambridge, MA.
- Leach, J. 2005, 'Modes of Creativity and the Register of Ownership', in R. A. Ghosh (ed.) *CODE: Collaborative Ownership and the Digital Economy*, Massachusetts Institute of Technology Press, Cambridge, MA.
- Litman, J. 1990, 'The Public Domain', *Emory Law Journal*, vol. 39, pp. 965–989.
- Locke, J. 1690, *Second Treatise of Civil Government*, available at: <http://www.constitution.org/jl/2ndtreat.htm> (accessed 12 April 2010).
- Maffi, L. (ed.) 2001, *On Biocultural Diversity: Linking Language, Knowledge and the Environment*, Smithsonian Institution Press, Washington, DC.
- Mankiw, N.G. 2004, *Principles of Economics*, Harcourt Brace College Publishers, New York.
- Maskus, E. 2008, 'Incorporating a Globalized Intellectual Property Rights Regime into an Economic Development Strategy', in K.E. Maskus (ed.), *Intellectual Property, Growth and Trade*, H. Beladi & E.K. Choi (eds.), *Frontiers of Economics and Globalization*, vol. 2, Elsevier.
- McGillivray, M. 2007, 'Human Well-being: Concepts and Conceptualizations', in M. McGillivray (ed.), *Human Well-being: Concept and Measurement*, Studies in Development Economics and Policy, United Nations University – World Institute for Development Economics Research (UNU-WIDER), Palgrave Macmillan, London.
- Moenius, J. & Trindade, V. 2008, 'Networks, Standards and Intellectual Property Rights', in K.E. Maskus (ed.), *Intellectual Property, Growth and Trade*, H. Beladi & E.K. Choi (eds.), *Frontiers of Economics and Globalization*, vol. 2, Elsevier.
- Moohr, G.S. 2003, 'The Crime of Copyright Infringement: An Inquiry Based on Morality, Harm, and Criminal Theory', *Boston University Law Review*, vol. 83, no. 4, pp. 731–741, available at: [www.law.uh.edu/faculty/gmoohr/Criminal.pdf](http://www.law.uh.edu/faculty/gmoohr/Criminal.pdf) (accessed 28 December 2008).
- Mossoff, A. 2007, 'Who Cares What Thomas Jefferson Thought About Patents? Reevaluating the Patent Privilege in Historical Context', *Cornell Law Review*, vol. 92, pp. 953–1012, available at: <http://www.lawschool.cornell.edu/research/cornell-law-review/upload/CRN502Mossoff.pdf> (accessed 28 December 2008).
- Netanel, N.W. 2008, 'Introduction: The WIPO Development Agenda and Its Development Policy Context', in N.W. Netanel (ed.), *The Development Agenda: Global Intellectual Property and Developing Countries*, Oxford University Press, New York, available at: <http://ssrn.com/abstract=1310388> (accessed 7 November 2009).
- New, W. 2009, 'Access to Influence in WIPO's Development Agenda', in H. Essalmawi (ed.), *Bibliotheca Alexandria Access to Knowledge Toolkit II: The Access to Knowledge Movement – Opportunities, Challenges and the Road Ahead*, Bibliotheca Alexandrina, Egypt, pp. 28–36, available at: <http://www.bibalex.org/a2k/attachments/references/reffileu24bkg55ykwgwc55zysxzq45.pdf> (accessed 15 November 2009).
- Nussbaum, M.C. 1988, 'Nature, Function and Capability: Aristotle on Political Distribution', *Oxford Studies in Ancient Philosophy*, suppl. vol. 6, pp. 113–137.
- Nussbaum, M.C. 1997a, 'Capabilities and Human Rights', *Fordham Law Review*, vol. 66, pp. 273–300.
- Nussbaum, M.C. 1997b, 'Human Rights and Human Capabilities', *Harvard Human Rights Journal*, vol. 20, available at: <http://www.law.harvard.edu/students/orgs/hrj/iss20/> (accessed 15 March 2010).
- Nussbaum, M.C. 2000, *Women and Human Development: The Capabilities Approach*, Cambridge University Press, New York.
- Nussbaum, M.C. 2003, 'Capabilities as Fundamental Entitlement: Sen and Social Justice', *Feminist Economics*, vol. 9, no. 2–3, pp. 33–59.
- Nuvolari, A. 2005, 'Open Source Software Development: Some Historical Perspectives', *First Monday*, vol. 10, no. 10.

- Okediji, R.L. 2007, 'The Limits of Development Strategies at the Intersection of Intellectual Property and Human Rights', in D. Gervais (ed.), *Intellectual Property, Trade and Development: Strategies to Optimize Economic Development in a TRIPS-Plus Era*, Oxford University Press, New York, pp. 355–384.
- Oman, R. 2000, *Copyright – Engine of Development: An Analysis of the Role of Copyright in Economic Development and Cultural Vitality*, UNESCO.
- Opderbeck, D.W. 2008, 'Deconstructing Jefferson's Candle: Towards a Critical Realist Approach to Cultural Environmentalism and Information Policy', *Seton Hall Public Law Research Paper No. 1091024*, available at: <http://ssrn.com/abstract=1091024> (accessed 15 March 2010).
- Organisation for Economic Cooperation and Development (OECD) 2004, *Patents and Innovation: Trends and Policy Challenges*, OECD, Paris, available at: <http://www.oecd.org/dataoecd/48/12/24508541.pdf> (accessed 25 January 2009).
- OECD 2007, *Participative Web and User-Created Content*, OECD, Paris, available at: <http://www.oecd.org/dataoecd/57/14/38393115.pdf> (accessed 14 May 2009).
- Ostergard, R.L. 2007, 'Economic Growth and Intellectual Property Rights Protection: A Reassessment of the Conventional Wisdom', in D. Gervais (ed.), *Intellectual Property, Trade and Development: Strategies to Optimize Economic Development in a TRIPS-Plus Era*, Oxford University Press, New York.
- Ovett, D. 2006a, 'Policy Brief on Intellectual Property, Development and Human Rights: How Human Rights Can Support Proposals for a World Intellectual Property Organization (WIPO) Development Agenda', *3D Policy Brief 2*, available at: [http://www.3dthree.org/pdf\\_3D/3DPolBrief-WIPO-eng.pdf#search=%22%2BOvett%20%2B%22Policy%20Brief%20on](http://www.3dthree.org/pdf_3D/3DPolBrief-WIPO-eng.pdf#search=%22%2BOvett%20%2B%22Policy%20Brief%20on) (accessed 2 January 2009).
- Ovett, D. 2006b, 'Intellectual Property and Human Rights: Is the Distinction Clear Now?: An Assessment of the Committee on Economic, Social and Cultural Rights' General Comment No. 17 (2005)', *3D Policy Brief 3*, available at: [http://www.3dthree.org/pdf\\_3D/3D\\_GC17\\_IPHR.pdf](http://www.3dthree.org/pdf_3D/3D_GC17_IPHR.pdf) (accessed 2 January 2009).
- Park, W.G. & Ginarte, J.C. 1997, 'Intellectual Property Rights and Economic Growth', *Contemporary Economic Policy*, vol. 15, no. 3, July 1997, pp. 51–61, available at: <http://www1.american.edu/cas/econ/faculty/park/park%20ginarte%20cep.pdf> (accessed 15 January 2010).
- Polanyi, M. 1983, *The Tacit Dimension*, Peter Smith, Gloucester, MA (reprint).
- Ponzio, R. 2008, 'The Advent of the Human Development Report', in K. Haq & R. Ponzio (eds.), *Pioneering the Human Development Revolution: An Intellectual Biography of Mahbub ul Haq*, Oxford University Press, New Delhi.
- Prott, L.V. 1998, 'Understanding One Another on Cultural Rights', in H. Niec (ed.), *Cultural Rights and Wrongs: A Collection of Essays in Commemoration of the 50th Anniversary of the University Declaration of Human Rights*, Institute of Art & Law, UNESCO, pp. 161–175.
- Qizilbash, M. 1998, 'The Concept of Well-Being', *Economics and Philosophy*, vol. 14, pp. 51–73.
- Qizilbash, M. 2006, 'Human Development', in D.A. Clark (ed.), *The Elgar Companion to Development Studies*, Edward Elgar, Cheltenham, UK, pp. 245–250.
- Rajotte, T. 2008, 'The Negotiations Web: Complex Connections', in G. Tansey & T. Rajotte (eds.), *The Future Control of Food: A Guide to International Negotiations and Rules on Intellectual Property, Biodiversity and Food Security*, Quaker International Affairs Programme (QIAP) and International Development Research Centre (IDRC), Earthscan, London and Sterling, VA.
- Ramos, A.R., Osório, R. G. & Pimenta, J. 2009, 'Indigenising Development', *Poverty in Focus*, no. 17, International Policy Centre for Inclusive Growth (IPC-IG), Poverty Practice, Bureau for Development Policy, United Nations Development Programme (UNDP), available at: [http://www.undp.org/partners/civil\\_society/publications/indigenous/Indigenising\\_Development\\_IPC\\_May\\_2009.pdf](http://www.undp.org/partners/civil_society/publications/indigenous/Indigenising_Development_IPC_May_2009.pdf) (accessed 3 November 2009).
- Rawls, J. 1971, *A Theory of Justice*, Clarendon, Oxford.
- Rens, A., Prabhala, A. & Kawooya, D. 2006, 'Intellectual Property, Education and Access to Knowledge in Southern Africa', *ICTSD Regional Research Paper Southern and Eastern Africa*, ICTSD, Geneva, available at: <http://www.iprsonline.org/unctadictsd/docs/06%2005%2031%20tralac%20amended-pdf.pdf> (accessed 18 January 2009).
- Robertson, A.H. & Merrills, J.G. 1996, *Human Rights in the World*, Manchester University Press, Manchester and New York.
- Robeyns, I. 2003, 'Sen's Capability Approach and Gender Inequality: Selecting Relevant Capabilities', *Feminist Economics*, vol. 9, no. 2–3, pp. 61–92.

- Robeyns, I. 2005, 'Capability Approach, a Theoretical Survey', *Journal of Human Development*, vol. 6, no. 1, pp. 93–114.
- Ruiz, M. 2004, 'An Analysis of the Implications of Intellectual Property Rights (IPR) on the Global Biodiversity Information Facility (GBIF) and Databases in General', document prepared for the GBIF Secretariat, Lima, Peru, February 2004.
- Saith, R. 2001, 'Capabilities: The Concept and its Operationalisation', *QEH Working Paper Series 66*, Queen Elizabeth House, University of Oxford, Oxford, available at: <http://www3.qeh.ox.ac.uk/pdf/qehwp/qehwps66.pdf> (accessed 15 March 2010).
- Samuelson, P. 2006, 'Enriching Discourse on Public Domains', *Duke Law Journal*, vol. 55, available at: <http://ssrn.com/abstract=925052> (accessed 15 May 2010).
- Scott, D., Oliver, A. & Ley-Pineda, M. 2008, 'Trade Marks as Property', in L. Bently, J. Davis & J.C. Ginsburg (eds.), *Trade Marks and Brands: An Interdisciplinary Critique*, Cambridge University Press, Cambridge, pp. 285–305.
- Sen, A.K. 1983, 'Development: Which Way Now?', *Economic Journal*, vol. 93, pp. 745–762.
- Sen, A.K. 1984, *Resources, Values and Development*, Basil Blackwell, Oxford.
- Sen, A.K. 1985a, *Commodities and Capabilities*, Elsevier Science Publishers, Oxford.
- Sen, A.K. 1985b, 'Well-being, Agency and Freedom: The Dewey Lectures', *Journal of Philosophy*, vol. 82, no. 4, pp. 169–221.
- Sen, A.K. 1987, *The Standard of Living: The Tanner Lectures*, Cambridge University Press, Cambridge.
- Sen, A.K. 1988, 'The Concept of Development', in H. Chenery & T.N. Srinivasan (eds.), *Handbook of Development Economics*, vol. 1, pp. 10–26, Elsevier Science Publishers, Amsterdam.
- Sen, A.K. 1990, 'Development as Capability Expansion', in K. Griffin & J. Knight (eds.), *Human Development and the International Development Strategy for the 1990s*, Macmillan, London, pp. 41–58.
- Sen, A.K. 1992, *Inequality Re-examined*, Clarendon Press, Oxford.
- Sen, A.K. 1993, 'Capability and Well-being', in M.C. Nussbaum & A.K. Sen (eds.), *The Quality of Life*, Clarendon Press, Oxford, pp. 30–53.
- Sen, A.K. 1999, *Development As Freedom*, Oxford University Press, Oxford.
- Sen, A.K. 2002, 'Response to Commentaries', *Studies in Comparative International Development*, vol. 37, no. 2, pp. 78–86.
- Sen, A.K. 2003, 'Foreword', in S. Fukuda-Parr & K.S. Shiva Kumar, *Readings in Human Development, Concepts, Measures and Policies for a Development Paradigm*, Oxford University Press, New Delhi.
- Sen, A.K. 2004, 'Capabilities, Lists and Public Reason: Continuing the Conversation', *Feminist Economics*, vol. 10, no. 3, pp. 77–80.
- Sen, A.K. 2005, 'Human Rights and Capabilities', *Journal of Human Development*, vol. 6, no. 2, pp. 151–166.
- Serageldin, I. 1996, 'Sustainability as Opportunity and the Problem of Social Capital', *Brown Journal of World Affairs*, vol. 3, no. 2, pp. 187–203.
- Shabas, W.A. 2007, 'Study of the Right to Enjoy the Benefits of Scientific and Technological Progress and Its Applications', in Y. Donders & V. Volodin (eds.), *Human Rights in Education, Science and Culture: Legal Developments and Challenges*, UNESCO and Ashgate Publishing, Paris.
- South Centre 2007, *Development & Intellectual Property under the EPA Negotiations*, South Centre, Geneva.
- Stewart, F. 1996, 'Basic Needs, Capabilities and Human Development', in A. Offer (ed.), *In Pursuit of the Quality of Life*, Oxford University Press, New York, pp. 46–65.
- Stewart, F. 2005, 'Groups and Capabilities', *Journal of Human Development*, vol. 6, no. 2, pp. 185–204.
- Strandburg, K.J. 2008, 'Users as Innovators: Implications for Patent Doctrine', *University of Colorado Law Review*, vol. 79, no. 46, available at: <http://ssrn.com/abstract=1141386> (accessed 15 June 2009).
- Strandburg, K.J. 2009, 'Evolving Innovation Paradigms and the Global Intellectual Property Regime', *Connecticut Law Review*, vol. 41, pp. 861–920, available at: <http://ssrn.com/abstract=1229543> (accessed 15 March 2010).
- Strathern, M. 1996, 'Cutting the Network', *The Journal of the Royal Anthropological Institute*, vol. 2, no. 3, pp. 517–535.
- Strathern, M. 2005, 'Imagined Collectivities and Multiple Authorship', in R.A. Ghosh (ed.), *CODE: Collaborative Ownership and the Digital Economy*, Massachusetts Institute of Technology Press, Cambridge, MA.
- Straus, J. 2008, 'Is There a Global Warming of Patents?' *The Journal of World Intellectual Property*, vol. 11, no. 1, pp. 58–62.
- Subramanian, S. 2008, 'Patent Trolls in Thickets: Who is Fishing Under the Bridge?' *European Intellectual Property Review*, vol. 30, no. 5, pp. 182–188.

- Sugden, P. 2009, 'How Long is a Piece of String? The Meaning of "Commercial Scale" in Copyright Piracy', *European Intellectual Property Review*, vol. 31, no. 4, pp. 202–212.
- Sun, H.C. 2007, 'Overcoming the Achilles Heel of Copyright Law', *Northwestern Journal of Technology and Intellectual Property*, vol. 5, pp. 265–331, available at: <http://ssrn.com/abstract=1021027> (accessed 1 June 2009).
- Sunder, M. 2006, 'IP<sup>3</sup>', *Stanford Law Review*, vol. 59, no. 2, pp. 257–332.
- Sunder, M. 2007, 'The Invention of Traditional Knowledge', *Law and Contemporary Problems*, vol. 70, no. 2, pp. 97–124.
- Sunder, M. 2008, 'Intellectual Property and Development as Freedom', in N.W. Netanel (ed.), *The Development Agenda: Global Intellectual Property and Developing Countries*, Oxford University Press, New York.
- Suthersanen, U. 2007, 'Copyright Law: A Stakeholder's Palimpsest', in F. Macmillan (ed.), *New Directions in Copyright Law*, vol. 5, Edward Elgar, Cheltenham, UK.
- Suthersanen, U. 2008, 'A2K and the WIPO Development Agenda: Time to List the "Public Domain"', UNCTAD-ICTSD Project on IPRs and Sustainable Development, Policy Brief No. 1, available at: [http://ictsd.net/downloads/2009/02/uma\\_final2.pdf](http://ictsd.net/downloads/2009/02/uma_final2.pdf) (accessed 15 June 2009).
- Suthersanen, U., Dutfield, D. & Chow, K.B. (eds.) 2007, *Innovation without Patents: Harnessing the Creative Spirit in a Diverse World*, Edward Elgar, Cheltenham, UK.
- Tansey, G. 2008, 'Food, Farming and Global Rules', in G. Tansey & T. Rajotte (eds.), *The Future Control of Food: A Guide to International Negotiations and Rules on Intellectual Property, Biodiversity and Food Security*, QIAP and IDRC, Earthscan, London and Sterling, VA.
- Tapper, C.B. 2004, 'Criminality and Copyright', in D. Vaver & L. Bently (eds.), *Intellectual Property in the New Millennium: Essays in Honour of William R. Cornish*, Cambridge University Press.
- United Nations (UN) 1987, *Report of the World Commission on Environment and Development: Our Common Future*, UN Doc. A/42/427, Annex, available at: <http://www.un-documents.net/wced-ocf.htm> (accessed 13 February 2010).
- UN 2008, *Creative Economy Report – The Challenge of Assessing the Creative Economy: Towards Informed Policy-Making*, available at: [http://www.unctad.org/en/docs/ditc20082cer\\_en.pdf](http://www.unctad.org/en/docs/ditc20082cer_en.pdf) (accessed 31 January 2009).
- UN 2009, *State of the World's Indigenous Peoples*, Department of Economic and Social Affairs, ST/ESA/328, New York.
- United Nations Development Programme (UNDP) 1996, *Human Development Report 1996: Human Development and Economic Growth*, UNDP, available at: <http://hdr.undp.org/en/reports/global/hdr1996/chapters/> (accessed 2 January 2009).
- UNDP 2000, *Human Development Report 2000: Human Rights and Human Development*, UNDP, available at: [http://hdr.undp.org/en/media/HDR\\_2000\\_EN.pdf](http://hdr.undp.org/en/media/HDR_2000_EN.pdf) (accessed 2 January 2009).
- UNDP 2001, *Human Development Report 2001: Making New Technologies Work for Human Development*, UNDP, available at: <http://hdr.undp.org/en/media/completenew1.pdf> (accessed 2 January 2009).
- UNDP 2003, *Human Development Report 2003: The Millennium Development Goals: A Compact among Nations to end Human Poverty*, UNDP, available at: [http://hdr.undp.org/en/media/hdr03\\_complete.pdf](http://hdr.undp.org/en/media/hdr03_complete.pdf) (accessed 2 January 2009).
- UNDP 2004, *Human Development Report 2004: Cultural Liberty in Today's Diverse World*, UNDP, available at: [http://hdr.undp.org/en/media/hdr04\\_complete.pdf](http://hdr.undp.org/en/media/hdr04_complete.pdf) (accessed 2 January 2009).
- UNDP 2007, *Human Development Report 2007/2008: Fighting Climate Change: Human Solidarity in a Divided World*, UNDP, available at: [http://hdr.undp.org/en/media/HDR\\_20072008\\_EN\\_Complete.pdf](http://hdr.undp.org/en/media/HDR_20072008_EN_Complete.pdf) (accessed 2 January 2009).
- UNDP 2009, *Human Development Report 2009: Overcoming barriers: Human Mobility and Development*, UNDP, available at: <http://hdr.undp.org/en/reports/global/hdr2009/> (accessed 15 March 2010).
- Watt, R. 2004, 'The Past and the Future of the Economics of Copyright', *Review of Economic Research on Copyright Issues*, vol. 1, no. 1, pp. 151–171, available at: <http://ssrn.com/abstract=1143022> (accessed 15 June 2009).
- Weber, R.J. 1992, *Forks, Phonographs, and Hot Air Balloons: A Field Guide to Inventive Thinking*, Oxford University Press, New York.
- Wiessner, S. 2009, 'United Nations Declaration On The Rights Of Indigenous Peoples', *United Nations Audiovisual Library of International Law*, pp. 1–7, available at: [http://untreaty.un.org/cod/avl/pdf/ha/ga/ga\\_61-295/ga\\_61-295\\_e.pdf](http://untreaty.un.org/cod/avl/pdf/ha/ga/ga_61-295/ga_61-295_e.pdf) (accessed 10 January 2010).

- Woolcock, M. & Narayan, D. 2000, 'Social Capital: Implications for Development Theory, Research and Policy', *The World Bank Research Observer*, vol. 15, no. 2, pp. 225–249.
- World Intellectual Property Organization (WIPO) 2004, 'WIPO Intellectual Property Handbook: Policy, Law and Use', WIPO Publication No. 489(E), WIPO, Geneva.
- WIPO 2005a, Understanding Copyright, WIPO Publication No. 909(E), WIPO, Geneva.
- WIPO 2005b, Understanding Industrial Property, WIPO Publication No. 895(E), WIPO, Geneva.
- WIPO 2009, *Report on the International Patent System*, (prepared by the Secretariat) Standing Committee on the Law of Patents, Doc. SCP/12/3 REV.2, WIPO, Geneva.
- Worsley, P. 1997, *Knowledges: What Different Peoples Make of the World*, Profile Books, London.
- Yu, P.K. 2003, 'Four Common Misconceptions about Copyright Piracy', *Loyola Los Angeles International & Comparative Law Review*, vol. 26, pp. 127–150.

## Notes

- <sup>1</sup> This chapter is dedicated to the memory of Sir Hugh Laddie (1946–2008). I am grateful to many for their review and invaluable comments on earlier drafts of this chapter, especially Margaret Chon, David Clark, Claire Comfort, Graham Dufield, Brett Frischmann, Sakiko Fukuda-Parr, Michael Gollin, Hans Haugen Morten, Richard Ponzio, Tim Scott and David Wong.
- <sup>2</sup> This is framed positively on WIPO's virtual tour of 'IP in Everyday Life' at <http://www.wipo.int/about-ip/en/athome.htm> (accessed 1 May 2009).
- <sup>3</sup> WIPO member states finally adopted in September 2007 a Development Agenda, consisting of a series of recommendations to enhance the development dimension of the Organization's activities. For background on the Development Agenda and related proposals, see <http://www.wipo.int/ip-development/en/agenda/> (accessed 15 January 2010); for some history and implications of WIPO's work on the Development Agenda, see Halbert 2007; de Beer 2009; New 2009. See also Chapter 9 of this book.
- <sup>4</sup> See International Expert Group on Biotechnology, Innovation and Intellectual Property (IEGBIIP) 2008, 'Toward a new era of intellectual property: From confrontation to negotiation', Montreal, Canada, September 2008 ('IEGBIIP Report 2008'), p. 13. See p. 2 of the report for the composition of the expert group, led by principal investigator Richard Gold from the Faculty of Law, McGill University, Canada.
- <sup>5</sup> For further examples, see IPcentral Weblog, 'IP as the Engine of Economic Growth' (7 November 2005), available at: [http://weblog.ipcentral.info/archives/2005/11/ip\\_as\\_the\\_engin\\_1.html](http://weblog.ipcentral.info/archives/2005/11/ip_as_the_engin_1.html) (accessed 20 March 2010).
- <sup>6</sup> While noting that some of the earlier empirical studies (e.g. Gould & Gruben 1996) on positive correlation between strong IPRs and economic growth may hold true for advanced, industrialized countries, Ostergard (2007) attempts to show through economic modelling that this relationship may actually prove negative for those developing countries which lack strong capacity for domestic R&D. For a recent review of literature in this area, see Chatterjee, S., David, J. Deng, F., Dippon, C. & Lopez, M. 2008, 'Worldwide: Intellectual Property Rights in Developing Countries', available at: <http://www.mondaq.com/article.asp?articleid=57856> (accessed 5 July 2009).
- <sup>7</sup> On differential impacts of IPRs on developed and developing countries, see further Park & Ginarte 1997.
- <sup>8</sup> See the discussion in Dufield & Suthersanen 2007, pp. 3–12.
- <sup>9</sup> See UNDP webpage, 'Human Development Reports', available at: <http://hdr.undp.org/en/reports/> (accessed 15 March 2010). See the discussion in Ponzio 2008; Fukuda-Parr 2008.
- <sup>10</sup> UNDP, 'Origins of the human development approach', available at: <http://hdr.undp.org/en/humandev/origins/> (accessed 15 January 2010). The succession of Human Development Reports (HDR) produced by UNDP since the 1990s – with topics as diverse as 'new technologies' (UNDP 2001), 'cultural liberty' (UNDP 2004), 'climate change' (UNDP 2007) and 'human mobility' (UNDP 2009) – testify to the broad range of potential subject matter within the umbrella of human development. See also Fukuda-Parr 2003a, 2003b.
- <sup>11</sup> This is an important topic explored in the (forthcoming) UNDP *Human Development Report 2010*, 'Twentieth Anniversary Edition: Rethinking Human Development', see <http://hdr.undp.org/en/reports/global/hdr2010/> (accessed 1 February 2010).
- <sup>12</sup> This compilation incorporates text from the listed sources and comments from Claire Comfort and Joshua Sarnoff.
- <sup>13</sup> Utility models are found in the laws of more than thirty countries, as well as in the regional agreements of the African Regional Intellectual Property Organization (ARIPO) and the Organisation Africaine de la Propriété Intellectuelle (OAPI). In addition, some countries, such as Australia and Malaysia, provide for titles of protection

- called innovation patents or utility innovations, which are similar to utility models (WIPO 2005b, p. 8). Other countries, like Ireland and Slovenia, have a short-term patent that is equivalent to the utility model (*ibid.*).
- <sup>14</sup> Lisbon Agreement for the Protection of Appellations of Origin and their International Registration (Lisbon, 31 October 1958) *as revised at* Stockholm, 14 July 1967, *and amended* 28 September 1979, 923 U.N.T.S. 205 (*entered into force with current regulations* 1 April 2002), available at: <http://www.wipo.int/export/sites/www/lisbon/en/docs/lisbonagreement.pdf> (accessed 3 February 2010).
- <sup>15</sup> While some aspects of IP confer positive entitlements, such as the right to be granted a patent or to register a trademark upon fulfilling the requisite conditions, Cornish and Llewelyn (2003, p. 6) qualify that these are ‘essentially ancillary’.
- <sup>16</sup> If someone owns the copyright in a film he can stop others from showing it in public but it does not follow that he has the positive right to show it himself (Laddie et al. 2000, p. 1).
- <sup>17</sup> As Cornish and Llewelyn (2003, p. 6) note, IPRs comprise rights to stop not only so-called ‘pirates, counterfeiters, imitators’ but also ‘in some cases third parties who have independently reached the same ideas from exploiting them without the licence of the right-owner’.
- <sup>18</sup> Agreement on Trade-Related Aspects of Intellectual Property Rights (Marrakesh, 15 April 1994), Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 299, 33 I.L.M. 1197 (1994) (*entered into force* 1 January 1995) [hereinafter ‘TRIPS Agreement’], available at: [http://www.wto.org/english/tratop\\_e/trips\\_e/t\\_agm0\\_e.htm](http://www.wto.org/english/tratop_e/trips_e/t_agm0_e.htm) (accessed 3 February 2010).
- <sup>19</sup> Statute of Anne, 1710, 8 Ann., c. 19 (Eng.), available at: <http://www.copyrighthistory.com/anne.html> (accessed 27 March 2010).
- <sup>20</sup> Berne Convention for the Protection of Literary and Artistic Works (Berne, 9 September 1886), *as revised at* Paris, 24 July 1971, *and amended* 28 September 1979, 1161 U.N.T.S. 30 (Paris Act *entered into force* 15 December 1972) [hereinafter ‘Berne Convention’], available at [http://www.wipo.int/treaties/en/ip/berne/trtdocs\\_wo001.html](http://www.wipo.int/treaties/en/ip/berne/trtdocs_wo001.html) (accessed 3 February 2010).
- <sup>21</sup> Coupled with the relatively low threshold for copyright protection, an increasingly long term of protection does not have trivial results. Sir Hugh Laddie (1996, p. 256) noted in the UK context: ‘As is now familiar in copyright law, the process was one of levelling up the protection rather than levelling down... Indeed if a modern day architect were to design a new Albert Memorial, he would have the satisfaction of knowing that his copyright is likely to be sprightly and in the prime of life long after the concrete and steel of his architectural creation have started to crumble. The question to be asked: what justification is there for a period of monopoly of such proportions? It surely cannot be based on the principle of encouraging artistic creativity by increasing the size of the carrot. No one is going to be more inclined to write programs or speeches, compose music or design buildings because 50, 60, or 70 years after his death a distant relative... might still be getting royalties’.
- <sup>22</sup> See Copyright Term Extension Act of 1998, P.L. 105–298, § 102(b) (amending 17 U.S.C. § 302).
- <sup>23</sup> Council Directive 93/98/EEC of 29 October 1993 harmonizing the term of protection of copyright and certain related rights, OJ No. L 290 (1993), *replaced by* Council Directive 2006/116/EC of 12 December 2006 on the term of protection of copyright and certain related rights (codified version), OJ No. L 372 (2006).
- <sup>24</sup> On 23 April 2009, the European Parliament approved a legislative proposal extending the term of copyright protection for sound recordings from fifty years to seventy years after first release. The European Parliament has also requested that the European Commission (EC) evaluate the possibility of a similar copyright term extension for performers and producers in the audiovisual sector. See European Parliament legislative resolution on the proposal for a directive of the European Parliament and the Council amending Directive 2006/116/EC of the European Parliament and the Council on the term of protection of copyright and related rights, 23 April 2009, P6\_TA9(2009)0282, available at: <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+TA+P6-TA-2009-0282+0+DOC+PDF+V0//EN> (accessed 3 March 2010).
- <sup>25</sup> Patent Cooperation Treaty (Washington, 19 June 1970), 1160 U.N.T.S. 231, 9 I.L.M. 978 (1970), *as amended* 3 October 2001 (*entered into force as amended* 1 April 2002), available at <http://www.wipo.int/pct/en/texts/articles/atoc.htm> (accessed 3 February 2010).
- <sup>26</sup> Paris Convention for the Protection of Industrial Property (1883), *as revised at* Stockholm, 14 July 1967, *and amended* 28 September 1979, 828 U.N.T.S. 303, 21 U.S.T. 1583 (*entered into force* 7 July 1884) [hereinafter ‘Paris Convention’], available at: [http://www.wipo.int/export/sites/www/treaties/en/ip/paris/pdf/trtdocs\\_wo020.pdf](http://www.wipo.int/export/sites/www/treaties/en/ip/paris/pdf/trtdocs_wo020.pdf) (accessed 3 February 2010).
- <sup>27</sup> In 1997, the United States Patent and Trademarks Office (USPTO) clarified, controversially, that patent applicants could claim DNA fragments of the kind known as expressed sequence tags (ESTs). However, in 2001, the Office

- published new rules for DNA-related patent examinations. Patent applications disclosing DNA sequences were required to provide convincing evidence that their utility was specific, substantial and credible. This effectively closed the door on EST claims, and this was confirmed in a 2005 decision at the Court of Appeals for the Federal Circuit. See *In re Fisher*, 421 F.3d 1365 (Fed. Cir. 2005). See Dutfield 2009, p. 222.
- <sup>28</sup> Strathern (1996, p. 531) asserts that ‘where technology might enlarge networks, proprietorship can be guaranteed to cut them down to size’.
- <sup>29</sup> *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980).
- <sup>30</sup> An example is Klein’s patent on an ultramarine (beyond the sea) blue which he called the International Klein Blue (French Patent No. 63471, filed 19 May 1960); Klein apparently ‘chose an available pigment but used in its raw form as opposed to having it mixed and compounded chemically’ (Kuivski, M. 2006, ‘Yves Klein: Killed by his own Immaterial Quest?’, unpublished manuscript on art history, available at: <http://www.scribd.com/doc/7521564/Yves-Klein-Killed-by-his-own-Immaterial-Quest>). See also the discussion of the ‘purple pill’ in Charlafti 2008.
- <sup>31</sup> A sense of the broad range of disparate material which may be affected by IP protection within the bracket of ‘industrial property’ can be drawn from Article 1(3) of the Paris Convention for the Protection of Industrial Property which notes that: ‘Industrial property shall be understood in the broadest sense and shall apply not only to industry and commerce proper, but likewise to agricultural and extractive industries and to all manufactured or natural products, for example, wines, grain, tobacco leaf, fruit, cattle, minerals, mineral waters, beer, flowers, and flour’. In the case of natural products, the line is especially blurred between what is a man-made invention (and thus potentially patentable) and what is merely a discovery of something pre-existing in nature.
- <sup>32</sup> Council Directive 96/9/EC of 11 March 1996 on the legal protection of databases, OJ No. L 077 (1996).
- <sup>33</sup> See Collections of Information Antipiracy Act, H.R. 354, 106th Cong. (1999), <http://thomas.loc.gov/cgi-bin/query/z?c106:H.R.354>: (accessed 15 February 2010). This bill was introduced in the House, marked up and reported by the House Committee on the Judiciary, discharged by the House Committee on Commerce, and placed on the Union Calendar.
- <sup>34</sup> Justice Stevens alluded to this concept in the *Eldred v. Ashcroft* case: ‘Thus, with regard to copyrights on motion pictures, we have clearly identified the overriding interest in the “release to the public of the products of [the author’s] creative genius.” And, as with patents, we have emphasized that the overriding purpose of providing a reward for authors’ creative activity is to motivate that activity and “to allow the public access to the products of their genius after the limited period of exclusive control has expired.”’ *Eldred v. Ashcroft*, 537 U.S. 186, 227 (2003) (Stevens, J., dissenting) (quoting *United States v. Paramount Pictures, Inc.*, 334 U.S. 131, 158 (1948) and *Sony Corp. of America v. Universal City Studios, Inc.*, 464 U.S. 417, 429 (1984)).
- <sup>35</sup> *Elanco Products Ltd. v. Mandops (Agrochemical Specialists) Ltd.* [1980] R.P.C. 213, [1979] F.S.R. 46 (partially reported) (UK Court of Appeal).
- <sup>36</sup> In the UK, the extension of copyright protection to prevent third-party production of three-dimensional objects based on two-dimensional plans also had significant impact on competition for industrially made, non-aesthetic objects (including spare parts of industrial objects, as per *British Leyland Motor Corp. v. Armstrong Patents Co.* [1986] A.C. 577). This was redressed to some extent by the 1988 Copyright, Designs and Patent Act (Laddie 1996, p. 6; see discussion in Cornish & Llewelyn 2003, pp. 557–558).
- <sup>37</sup> *Eldred v. Ashcroft*, 537 U.S. 186, 262 (2003) (Breyer, J., dissenting). The song (originally ‘Good morning to you’) is said to have been composed in the late nineteenth century by a school teacher and her sister, with the ‘Happy Birthday’ lyrics appearing in songbooks nearly two decades later (see Brauneis 2008, p. 15). On how a subsidiary of the Warner Music Group came to claim the copyright over the song, and other pieces of the puzzle, see Brauneis 2008.
- <sup>38</sup> He cites, as examples, developments in relation to patenting of the human genome, business method patents, the Digital Millennium Copyright Act in the US, trademark anti-dilution rulings, and the European Database Protection Directive (*ibid.*, pp. 37–38). The US Court of Appeals for the Federal Circuit’s *In re Bilski* decision in late 2008 was thought to make it far harder to acquire and enforce patents claiming business methods. However, the recent Supreme Court decision on the case does not entirely rule out the grant of process patents over business methods. See *In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008); *Bilski v. Kappos*, No. 08–964, slip opinion at p. 12 (U.S. 28 June 2010) (Kennedy, J.).
- <sup>39</sup> Suthersanen (2008, p. 4) quoting ‘Copyright and Fair Use, Stanford University Library and Academic Information Resources’, available at [http://fairuse.stanford.edu/Copyright\\_and\\_Fair\\_Use\\_Overview/chapter8/8-a.html](http://fairuse.stanford.edu/Copyright_and_Fair_Use_Overview/chapter8/8-a.html) (accessed 15 February 2010).

- <sup>40</sup> Quite distinct from literary works such as books, for example, the product cycle for software tends to be short and the copyright term could be said to be ‘functionally’ perpetual.
- <sup>41</sup> As Darnton (2009) notes, this is ‘also known as “the Mickey Mouse Protection Act”, because Mickey was about to fall into the public domain’. See further ‘Free Mickey Mouse’, *The Economist*, October 2002, p. 73.
- <sup>42</sup> *Eldred*, 537 U.S. at 241 (Stevens, J., dissenting).
- <sup>43</sup> It is notable that in their *amici curiae* brief in support of petitioners, fifty-three IP law professors at American universities argued not only that the CTEA’s extension of copyright in existing works is a violation of the First Amendment but also that the CTEA’s extension of future copyrights is invalid. See *Brief of Intellectual Property Law Professors as Amici Curiae Supporting Petitioners, Eldred v. Ashcroft*, 537 U.S. 186 (2003) (No. 01–618), pp. 29–30, available at: <http://cyber.law.harvard.edu/openlaw/eldredvashcroft/supct/amici/ip-lawprofs.pdf> (accessed 10 March 2010).
- <sup>44</sup> *Eldred*, 537 U.S. at 226 (Stevens, J., dissenting).
- <sup>45</sup> See also the Saami Council arguments in UNDP 2004, p. 93.
- <sup>46</sup> Innovation does not take place only in universities or the R&D departments of companies but is a way of life for many local communities around the world, including farming communities (see Chapter 3). Technology existed in many forms and within many cultures long before so-called high technology (see Ingold 2000; see also Weber 1992).
- <sup>47</sup> Boateng (2005, pp. 68–69) notes the cultural bias of scientific perspectives which claim to be value-neutral and universal. See also Biagioli 1999; Bowrey 2006.
- <sup>48</sup> United Nations Declaration on the Rights of Indigenous Peoples (13 September 2007) 46 I.L.M. 1013 (2007), G.A. Res. 61/295, UN Doc. A/RES/61/295 (2007) [hereinafter ‘UNDRIP’], available at: [http://www.un.org/esa/socdev/unpfii/documents/DRIPS\\_en.pdf](http://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf) (accessed 5 February 2010).
- <sup>49</sup> Not only does the extension of IP protection to the traditional realm pose far-reaching challenges for the preservation and innovation of such heritage, but it also raises fundamental questions on the nature of IP and may have transformative effects on how IP is viewed and approached in the future. This issue is explored further in subsequent chapters of this book.
- <sup>50</sup> This idea, influenced by John Locke’s labour theory of property, can be seen in case law in some common law jurisdictions including the UK and the US (see Locke 1690; Fisher 2001; Guibault 2002). Ginsburg (2007, p. 136) suggests that early copyright law in the UK has some underpinnings in natural rights. 2007) suggests that early copyright law in the UK has some underpinnings in natural rights.
- <sup>51</sup> The protection of moral rights, however, remains highly dependent on jurisdictions (see Chapters 5 and 8; see especially Appendix E).
- <sup>52</sup> This compilation incorporates text from the listed sources and comments from Graham Dutfield and Joshua Sarnoff.
- <sup>53</sup> Treaty on Intellectual Property in Respect of Integrated Circuits (Washington, DC, 26 May 1989), 28 I.L.M. 1477 (1989) (*treaty not entered into force*), available at: [http://www.wipo.int/export/sites/www/treaties/en/ip/washington/pdf/trtdocs\\_wo011.pdf](http://www.wipo.int/export/sites/www/treaties/en/ip/washington/pdf/trtdocs_wo011.pdf) (accessed 24 February 2010).
- <sup>54</sup> International Convention for the Protection of New Varieties of Plants (Paris, 2 December 1961), 815 U.N.T.S. 89 (*entered into force* 10 August 1968), *as revised at* Geneva, 10 November 1972, 23 October 1978 and 19 March 1991 [hereinafter ‘UPOV Convention’], available at: <http://www.upov.int/en/publications/conventions/index.html> (accessed 24 February 2010).
- <sup>55</sup> Council Directive 96/9/EC of 11 March 1996 on the legal protection of databases, OJ No. L 077 (1996), available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31996L0009:EN:HTML> (accessed 9 March 2010).
- <sup>56</sup> Convention on Biological Diversity (Rio de Janeiro, 5 June 1992), 1760 U.N.T.S. 79, 31 I.L.M. 818 (1992) (*entered into force* 29 December 1993) [hereinafter ‘CBD’], available at: <http://www.cbd.int/doc/legal/cbd-un-en.pdf> (accessed 3 February 2010).
- <sup>57</sup> U.S. Const. Art. I, § 8, cl. 8.
- <sup>58</sup> *Mazer v. Stein*, 347 U.S. 201, 219 (1954).
- <sup>59</sup> See Guibault 2002, pp. 12–13, for a summary of the related economic theory, particularly from the Chicago School of Economics. See also Cornish and Llewelyn 2003, pp. 35–41.
- <sup>60</sup> On one hand, it could be argued that extended trademark protection is needed to incentivize businesses to build up strong brands, and that ‘allowing others to damage these brands, or capitalize on them, would be to lower such



- incentives' (ibid., p. 296). Scott et al. question, however, 'why it is better to allow them [the brand-owners] to have the exclusive right to sell the associated merchandise and hence to exploit the surplus value of the trade mark... what is the social benefit of allowing only one company to capture this surplus value, especially when doing so may drive up prices and lower quality? By allowing free competition in the exploitation of this surplus value we benefit the consumer' (ibid., p. 297).
- <sup>61</sup> Bates 2005 (electronic journal article; page numbers not available).
- <sup>62</sup> According to Frischmann and Lemley (2006, p. 102), 'spillovers are a "ubiquitous boon for society" because we share a common environment, live in communities, and interact with one another'.
- <sup>63</sup> Open letter to WHO Executive Board (signed by 240 scientists from 47 countries) in support of the 'Global Framework on essential health research and development (Draft resolution proposed by Brazil and Kenya)', 25 January 2006, available at: <http://www.whoscientistsletter.org/> (accessed 15 January 2010).
- <sup>64</sup> As noted in a document prepared for the WIPO Standing Committee on the Law of Patents: 'In general the term "patent thicket" describes a situation where a product involves a web of patents that are owned by a number of different patentees so that a company which wants to commercialize the product is required to "clear" all the patents involved' (WIPO 2009, pp. 74–76). For an explanation on 'patent trolls', see Crain 2009. As he observes: 'Patent trolls are firms that aggregate patents for technology that they usually did not create themselves and do not themselves use, but for which they seek to exact royalty payments from commercial users' (ibid., p. 286). See also Subramanian 2008.
- <sup>65</sup> Comment from Brett Frischmann.
- <sup>66</sup> In the US, copyright owners had to comply with certain formalities, like notice, registration, renewal and deposit. This meant that the vast majority of works ended up in the public domain quite early on in their lives, and only a small minority of works (typically, those of high commercial value) remained subject to copyright. With the elimination of formalities when the US joined the Berne Convention in 1989, the default flipped such that virtually all works end up presumptively protected by copyright. Comment from Brett Frischmann.
- <sup>67</sup> See also Chapter IV(a) of WIPO 2009.
- <sup>68</sup> Opperbeck notes (2008, p. 36): 'The idea that information has a tacit, social dimension suggests a communitarian ethical framework. A robust information policy must consider broadly the ways in which granting or restricting access to information will encourage the extension of communities that promote human flourishing.'
- <sup>69</sup> Weber, R. 'The Wright Brothers and the Heuristics of Invention', p. 11 of manuscript on file with author. This is an expanded version of a paper presented at the Conference on Expertise in Context, Humboldt University, Berlin, 21 July 2006.
- <sup>70</sup> Dinwoodie and Dreyfuss (2006, p. 196) note that the test of 'inventiveness (non-obviousness) for patent grants is measured by comparing an invention to the knowledge that preceded it'. Along with the 'novelty' requirement which bars patents on material that is already known, used or described in the literature, this test is said to 'force inventors to consult the prior art' (ibid.).
- <sup>71</sup> Dinwoodie and Dreyfuss query, for example, the dilution of the 'non-obviousness' test in a number of US court decisions (ibid., p. 202; see also Burk & Lemley 2002, 2003). However, recent US caselaw seen as raising the bar for 'non-obviousness' might suggest a shift in the opposite direction. See, for example, *KSR Int'l. Co. v. Teleflex, Inc.*, 550 U.S. 398 (2007).
- <sup>72</sup> See Lohr, S. 2002, 'New Economy; The Intellectual Property Debate Takes a Page from 19th-Century America', *New York Times*, 14 October 2002. He notes that Charles Dickens – whose 'Christmas Carol' work apparently sold for 6 cents a copy in America versus the equivalent of \$2.50 a copy in England – toured the US in 1842 promoting the adoption of international copyright protection. See also Yu 2003, arguing that 'piracy' is not a thing of the past with developed countries.
- <sup>73</sup> For recent developments in various jurisdictions including the US, China and Australia, as well as European Parliament initiatives to harmonize the provision of criminal remedies in Europe, see Sugden 2009.
- <sup>74</sup> Demonstrating that the figures (e.g. on recording industry losses from piracy) do not withstand economic analysis, Watt (2004, p. 160) notes that 'the types of numbers that have been bandied about recently are clear evidence that scant attention has been paid to the economist's word'.
- <sup>75</sup> For a distinction between 'pirating', 'counterfeiting' and bootlegging' see *Regina v. Johnstone* [2003] UKHL 28 (Lord Nicholls), para. 1.
- <sup>76</sup> See literature review in Clark 2006. See also the bibliography of new work on the capability approach in the *Journal of Human Development and Capabilities* (published annually in issues since 2005).
- <sup>77</sup> As Sen (1985, p. 19) clarifies, 'Commodity command is a *means* to the end of well-being, but can scarcely be the end itself'. He adds that to think otherwise is to 'regard goods as valuable in themselves and not for (and to the

- extent that) they help the person' (ibid.). In discussing public access to IP-protected goods, for example, this approach would draw attention to whether those goods are relevant to building capabilities and, if so, whether the public is able to access those goods on reasonable terms and use them in ways that improve their capabilities (this is explored later).
- <sup>78</sup> Given that the term 'freedom' is open to many broad interpretations, it is important to understand how Sen nuances the 'perspective of freedom' in different contexts (see Sen 1999, pp. 13–34), in particular his treatment of 'capability as a kind of freedom' (ibid., p. 75). Sen's capability approach focuses on 'positive freedom' to achieve valuable capabilities; he also discusses the significance of 'negative freedom' for his approach (see Sen 1985b, pp. 216–220).
- <sup>79</sup> An oft-heard critique of Sen's capability approach is that it does not have a built-in set of values with which to determine and measure capabilities (see Nussbaum 1988, p. 176; Qizilbash 1998, p. 54; Clark 2006). According to Sen, on the contrary, value selection and discrimination are an intrinsic part of the capability approach, so that *a priori* specifications of capabilities should be avoided. Rather than endorse a universal list of essential capabilities, Sen has argued that societies should develop their own lists based on a process of public reasoning and debate (Sen 2004 and 2005; Robeyns 2005; Fukuda-Parr 2008, p. 238).
- <sup>80</sup> Nussbaum (2000, p. 97) sees a close relationship between her notion of core capabilities and human rights as understood in contemporary international discussions (see Section 4 of this chapter).
- <sup>81</sup> At the same time, the ends and means analysis of IP may perhaps obscure 'authorial moral rights' and other claims based on natural rights which are 'quite irrespective of whether conceding such rights advances wider socio-economic goals' (pers. comm. Graham Dutfield, 22 June 2009). Some 'natural rights' proponents may well place the protection of IP as an end in itself. Yet other legal commentators have suggested that IP could be treated as both a means and ends to human development (Sunder 2007, p. 122).
- <sup>82</sup> The report notes that the 'increased appetite for protection' under that 'Old IP' era greatly expanded the pool of what was protected under IP, but 'did not necessarily raise levels of innovation, creativity, or the new products that go along with it' (IEGBIIP 2008, p. 13).
- <sup>83</sup> The Charter has been written by an international group of artists, scientists, lawyers, politicians, economists, academics and business experts. This Charter sets out new principles for copyrights and patents, calling on governments to apply a new 'public interest' test to ensure that everyone has access to ideas and knowledge, and that intellectual property laws do not become too restrictive. It is a project of the Royal Society for the Encouragement of Arts, Manufactures and Commerce (RSA). See their website at <http://www.adelphicharter.org/default.asp> (accessed 15 January 2010).
- <sup>84</sup> The onus, according to the Charter, is on those advocating an expansion of IP rights to clearly demonstrate through 'a rigorous analysis' that such change will promote people's basic rights and economic well-being.
- <sup>85</sup> Both mainstream and development economists have also sought to redefine utility-based approaches to measuring well-being (see Kingdon and Knight 2006). Surveying the increasing inter-disciplinary research involving, for example, social psychology in defining 'happiness' and 'subjective well-being', Frey & Stutzer (2006, p. 18) observe: 'The big progress in the measurement of individual welfare makes it tempting to pursue the old dream of maximizing aggregate happiness as a social welfare function... However, we postulate that the appropriate approach is not to maximize aggregate happiness directly in seeking to improve outcomes by direct interventions. We rather see the role of happiness research in seeking to improve the nature of the processes'.
- <sup>86</sup> This set represents the 'various alternative combinations of beings and doings any one (combination) of which the person can choose' (Sen 1993, p. 38). While Sen provides a mathematical rendition of the capability set in terms of '*n*-tuples of functioning', it has been said that most discussions and applications of the capability approach dispense with mathematical formalization, which is not strictly necessary for most purposes (Clark 2006, p. 35).
- <sup>87</sup> For example, within the IP-related context of access to genetic resources and 'benefit-sharing' under the Convention on Biological Diversity, a capability approach would emphasize the sharing of benefits in ways that ultimately improve local capabilities. This goes beyond considerations of monetary benefits to embrace arrangements for local communities, for example, to participate directly in research efforts and for the research results to be shared with them. See Chapters 3 and 4.
- <sup>88</sup> He notes (1999, p. 62) that the 'utilitarian calculus tends to ignore inequalities in the distribution of happiness (only the sum total matters – no matter how unequally distributed)'; furthermore, 'the utilitarian approach attaches no intrinsic importance to claims of rights and freedoms (they are valued only indirectly and only to the extent they influence utilities)' (ibid.).

- <sup>89</sup> Chon comments: ‘Focusing on capabilities helps us think about goals for the system as a whole. Should IP take into account health measures? Education measures?... in addition to or instead of pure innovation measures?’ (pers. comm. Margaret Chon, 21 December 2008).
- <sup>90</sup> Frischmann, B. ‘*Capabilities, Spillovers, and Intellectual Progress: A New IP Consequentialism?*’ (manuscript on file with author).
- <sup>91</sup> Frischmann claims that capabilities are socially valuable or meaningful not only because of what they mean for individuals but also because of what they mean for the well-being of others in the community. This is an important observation in the context of IP where the shared resources are said to be non-rivalrous and often inputs into socially relevant activities.
- <sup>92</sup> Frischmann adds that: ‘When individuals choose to exercise their participatory capabilities, participation may yield spillovers vis-à-vis the impacts of such participation on interdependent social activities or systems. The enabled capabilities are thus (i) privately valuable in the sense that people have reason to value participation, even if they do not necessarily or always exercise the capability to participate, and (ii) socially valuable in the sense that when exercised, participation generates societal benefits’ (ibid.).
- <sup>93</sup> At the same time, IP controls the flow of many tangibles including medicines, books, computers, etc.
- <sup>94</sup> Sen, A.K. 2008, Keynote Address at book launch of *Pioneering the Human Development Revolution: An Intellectual Biography of Mahbub ul Haq* (edited by K. Haq & R. Ponzio), 17 October 2008, Hank Shannon Conference Room, One United Nations Plaza, New York.
- <sup>95</sup> This is observed not only in the sciences but also in the arts. In literary theory, for example, there is an increasing tendency to view readers not only as the passive recipient or audience of a cultural work, but also as an active agent in interpreting, contextualizing and, in a sense, ‘completing’ or ‘continuing’ the work (see Chapter 8).
- <sup>96</sup> She adds that: ‘To fully understand the importance of groups, the capability approach should engage more intensively in a dialogue with disciplines such as sociology, anthropology, history, and gender and cultural studies. Disciplinary boundaries and structures make this kind of dialogue difficult, but there is no inherent reason why this cannot be done’ (Robeyns 2005, pp. 109–110).
- <sup>97</sup> Social capital has been defined as the ‘norms and networks that enable people to act collectively’ (Woolcock & Narayan 2000, p. 226) or ‘the glue that holds societies together’ (Serageldin 1996, p. 196, quoted in Ibrahim 2006, p. 409).
- <sup>98</sup> Ibrahim (2006, p. 404) argues that collective capabilities ‘are not simply the sum (or average) of individual capabilities, but rather new capabilities that the individual alone would neither have nor be able to achieve, if he/she did not join a collectivity’ (see also Comim & Carey 2001, p. 17; cf. Stewart 2005, p. 192).
- <sup>99</sup> Scholars differ in their definitions of ‘group’ and ‘collective’ capabilities (see Ibrahim 2006, p. 403). Stewart (2005, p. 192), for example, explains that group capabilities are ‘made up of individual capabilities – indeed they are the average of the capabilities (and sources of capabilities) of all the individuals in the selected groups – but the focus here is on the group achievements and inequalities (or horizontal inequalities) because it is these that constitute powerful group grievances, which in turn can lead to group mobilization’ (cf. Ibrahim 2006, p. 404). It is important to note that Stewart defines ‘groups’ quite broadly as ‘ways of categorising people in ways that represent common affiliations or identities’ (2005, p. 186).
- <sup>100</sup> Stewart qualifies that: ‘We should note that there can be a direct negative impact – the constricting effects of families or communities – as well as the positive consequences. The point is not that all effects are positive, but that they are important, for good or ill...’ (ibid. p. 188).
- <sup>101</sup> Importantly, Sen (1993, p. 49) notes that: ‘[I]t may be a mistake to move on relentlessly until one gets to exactly one mechanism for determining relative weights, or – to turn to a different aspect of the ‘incompleteness’ – until one arrives at exactly one interpretation of the metaphysics of value. There are substantive differences between different ethical theories at different levels, from the meta-ethical (involving such issues as objectivity) to the motivational, and it is not obvious that for substantive political and social philosophy it is sensible to insist that all these general issues be resolved *before* an agreement is reached on the choice of an evaluative space’.
- <sup>102</sup> This book explores, among other things, how a human development perspective could complement or add to the language of human rights within the context of IP reforms.
- <sup>103</sup> Sen has qualified, for example, that the capability approach can help to deal with the ‘opportunities’ aspects of human rights, but not the procedural aspects (Sen 2004, 2005).
- <sup>104</sup> Fukuda-Parr (2009, p. 88) asserts that since human rights are subject to binding legal obligations and accountability processes in international treaty bodies, they have ‘a unique instrumental power’. She suggests a need to draw on Sen’s work on capabilities in addressing current issues in the implementation of HRBA (ibid., p. 77).

- <sup>105</sup> Encouraging IP students to train in human rights law, and vice versa, may help to reduce some of the perceived gaps between the two areas of law.
- <sup>106</sup> The right to health is enshrined in Article 12 of the International Covenant on Economic, Social and Cultural Rights (New York, 16 December 1966), 993 U.N.T.S. 3, 6 I.L.M. 360 (1967), G.A. Res. 2200A (XXI), UN Doc. A/6316 (1966) (*entered into force* 3 January 1976) [hereinafter ‘ICESCR’], available at: <http://www2.ohchr.org/english/law/cescr.htm> (accessed 3 February 2010). For other instruments and documents of relevance to the right to health, see Chapter 2; see also Ovet 2006b.
- <sup>107</sup> See Article 11 of the ICESCR, as interpreted by Committee on Economic, Social and Cultural Rights (CESCR) 1999, *General Comment No. 12: The right to adequate food*, UN Doc. E/C.12/1999/5 (12 May 1999), available at: <http://www.unhcr.ch/tbs/doc.nsf/0/3d02758c707031d58025677f003b73b9> (accessed 3 February 2010). See discussion in Chapter 3; Rajotte 2008.
- <sup>108</sup> See Article 13 of the ICESCR; see also Article 28 of the Convention on the Rights of the Child (New York, 20 November 1989), 1577 U.N.T.S. 3, 28 I.L.M. 1456 (1989), G.A. Res. 44/25, UN Doc. A/44/49 (1989) (*entered into force* 2 September 1990) [hereinafter ‘CRC’]. See Chapters 6 and 7.
- <sup>109</sup> See Article 19 of the International Covenant on Civil and Political Rights (New York, 16 December 1966) 999 U.N.T.S. 171 and 1057 U.N.T.S. 407, 6 I.L.M. 368 (1967), G.A. Res. 2200A (XXI), UN Doc. A/6316 (1966), (*entered into force* 23 March 1976) [hereinafter ‘ICCPR’], available at: <http://www2.ohchr.org/english/law/ccpr.htm> (accessed 3 February 2010). See also Articles 13 and 17 of the CRC.
- <sup>110</sup> See Office of the High Commissioner on Human Rights (OHCHR), ‘Background on the Right to Development’, <http://www2.ohchr.org/english/issues/development/right/index.htm> (accessed 1 May 2010).
- <sup>111</sup> United Nations Declaration on the Right to Development (4 December 1986), G.A. Res. 41/128, UN Doc. A/RES/41/128 (1986), available at: <http://www.un.org/documents/ga/res/41/a41r128.htm> (accessed 10 January 2010).
- <sup>112</sup> Universal Declaration of Human Rights (Paris, 10 December 1948), G.A. Res. 217A (III), UN Doc. A/810 (1948) [hereinafter ‘UDHR’], <http://www.un.org/en/documents/udhr> (accessed 29 March 2010).
- <sup>113</sup> Committee on Economic, Social and Cultural Rights (CESCR) 2009, *General Comment No. 21: Right of everyone to take part in cultural life (art. 15, para. 1 (a), of the International Covenant on Economic, Social and Cultural Rights)*, UN Doc. E/C.12/GC/21 (21 December 2009), available at: <http://www2.ohchr.org/english/bodies/cescr/comments.htm> (accessed 1 February 2010).
- <sup>114</sup> Each of the six UN human rights treaty-monitoring bodies, including the Committee on Economic, Social and Cultural Rights, periodically publishes documents known as General Comments or General Recommendations, which provide guidelines for States Parties on the interpretation of specific aspects of the human rights treaty of concern to the particular committee. General Comments clarify the content of Covenant rights in more detail, may outline potential violations of those rights and offer advice to states parties on how best to comply with their obligations under the treaties. All General Comments are accessible through the website of the Office of the High Commissioner for Human Rights. See <http://www.ohchr.org/EN/HRBodies/Pages/HumanRightsBodies.aspx> (accessed 15 January 2010).
- <sup>115</sup> Sub-Commission on the Promotion and Protection of Human Rights, Intellectual Property Rights and Human Rights, Sub-Comm. Human Rights Res. 2000/7, UN Doc. E/CN.4/Sub.2/RES/2000/7 (17 August 2000), available at: <http://www.unhcr.ch/Huridocda/Huridoca.nsf/0/c462b62cf8a07b13c12569700046704e?Opendocument> (accessed 5 February 2010).
- <sup>116</sup> Committee on Economic, Social and Cultural Rights (CESCR) 2005, *General Comment No. 17: The right of everyone to benefit from the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he or she is the author* (article 15, paragraph 1 (c), of the Covenant), UN Doc. E/C.12/GC/17 (12 January 2006), available at: [http://www.unhcr.ch/tbs/doc.nsf/7cec89369c43a6dfc1256a2a0027ba2a/03902145edbbe797c125711500584ea8/\\$FILE/G0640060.pdf](http://www.unhcr.ch/tbs/doc.nsf/7cec89369c43a6dfc1256a2a0027ba2a/03902145edbbe797c125711500584ea8/$FILE/G0640060.pdf) (accessed 3 February 2010).
- <sup>117</sup> United Nations Declaration on the Rights of Indigenous Peoples (13 September 2007), 46 I.L.M. 1013 (2007), G.A. Res. 61/295, UN Doc. A/RES/61/295 (2007) [hereinafter ‘UNDRIP’], available at: [http://www.un.org/esa/socdev/unpfii/documents/DRIPS\\_en.pdf](http://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf) (accessed 3 February 2010).
- <sup>118</sup> For example, Act No. 3760 of 7 November 2007 granted legal status in Bolivia to the UNDRIP. See Information from the government of Bolivia to the Permanent Forum on Indigenous Issues, fourth session, New York, 21 April – 2 May 2008, UN Doc. E/C.19/2008/5/Add.3. The document notes within the Bolivian context that

- ‘accordingly, the Declaration no longer has solely moral and political force but also legal force, in view of its binding nature’ (ibid, p. 11). In Belize, a Supreme Court decision in November 2007 cited the UNDRIP directly in recognizing the customary land rights of two Mayan villages. See *Aurelio Cal. v. Attorney General of Belize*, Supreme Court of Belize, Claim No. 171/172, paras. 131–134 (2007). See further Campbell and Anaya 2008.
- <sup>119</sup> See *Dima v. Romania*, no. 58472/00, § 87, 16 November 2006; *Melnychuk v. Ukraine* (dec.), no. 28743/03, § 8, ECHR 2005-IX; *Anheuser-Busch Inc. v. Portugal* [GC], no. 73049/01, ECHR 2007-I; see also *Anheuser-Busch Inc. v. Portugal*, no. 73049/01, 11 October 2005. These case decisions can be found on the ECHR’s online caselaw database, available at <http://www.echr.coe.int/ECHR/EN/Header/Case-Law/HUDOC/HUDOC±database/>. They are discussed in detail in Helfer 2008.
- <sup>120</sup> European Convention for the Protection of Human Rights and Fundamental Freedoms (Rome, 4 November 1950), 213 U.N.T.S. 221, 312 E.T.S. 5 (entered into force 3 September 1953), as last amended by Protocol 11, E.T.S. 155 (Protocol 11 entered into force 1 November 1998) [hereinafter ‘European Convention of Human Rights’], available at: <http://conventions.coe.int/Treaty/EN/Treaties/html/005.htm> (accessed 3 February 2010). Article 1 of Protocol No. 1 (1952) to the European Convention on Human Rights explicitly provides that ‘every natural or legal person is entitled to the peaceful enjoyment of his possessions’. Helfer (2008, p. 8) comments that ‘disagreement among European governments over the inclusion of a property rights clause in the treaty as well as the scope and extent of protection it provides’ is reflected in the placement of the relevant Article on ‘peaceful enjoyment of possessions’ in Protocol No. 1 rather than in the Convention itself, along with the absence of any mention of the word ‘rights’ in Article 1.
- <sup>121</sup> Article 17(1) of the non-binding UDHR provides that ‘everyone has the right to own property alone as well as in association with others’, while Article 17 (2) provides that ‘no one shall be arbitrarily deprived of his property’. This language was notably not incorporated, however, in the binding ICESCR and ICCPR subsequently adopted by nation states as it proved impossible to reach agreement between countries on a definition of this right (see Robertson & Merrills 1996, p. 37; Council of Europe 2007, p. 1). There are regional human rights instruments which incorporate what is akin to a right to property (see Robertson & Merrills 1996, pp. 125, 203, 250).
- <sup>122</sup> *Anheuser-Busch Inc. v. Portugal* [GC], no. 73049/01, §§ 72, 78 and 87, ECHR 2007-I. The question before the Court was whether ‘this conclusion also applies to mere applications for the registration of a trade mark’ (ibid., §72). *Anheuser-Busch Inc.* argued before the Court that it enjoyed the protection under Article 1 upon application to register the trademark in Portugal. The Grand Chamber held that: ‘It is true that the registration of the mark – and the greater protection it afforded – would only become final if the mark did not infringe legitimate third-party rights, so that, in that sense, the rights attached to an application for registration were conditional. Nevertheless, when it filed its application for registration, the applicant company was entitled to expect that it would be examined under the applicable legislation if it satisfied the other relevant substantive and procedural conditions. The applicant company therefore owned a set of proprietary rights – linked to its application for the registration of a trade mark – that were recognised under Portuguese law, even though they could be revoked under certain conditions. This suffices to make Article 1 of Protocol No. 1 applicable in the instant case...’. See *Anheuser-Busch Inc. v. Portugal* [GC], no. 73049/01, § 78, ECHR 2007-I.
- <sup>123</sup> He emphasizes (2006, p. 3) that in this respect, the European Convention of Human Rights differs from regional and global arrangements such as the closely related ICCPR and the American Convention on Human Rights 1969 given that it offers wide-ranging protection for business entities such as companies in addition to not-for-profit organizations and natural persons. See ICCPR and American Convention on Human Rights (Costa Rica, 21 November 1969), 1144 U.N.T.S. 123, 9 I.L.M. 99 (1970) (entered into force 18 July 1978), available at: <http://www1.umn.edu/humanrts/oasinstr/zoas3con.htm> (accessed 3 February 2010).
- <sup>124</sup> General Comment No. 17 leaves some ambiguities (see Ovett 2006b; Haugen 2007a, p. 60; Helfer 2007, pp. 992–994). Helfer (2007, p. 992) suggests, for example, that: ‘The Committee’s “core obligations” approach to authors’ rights leaves many issues unresolved. Most notably, it does not define the content of the “moral and material interests” which states are required to “respect, protect, and fulfill”’. He adds that the General Comment does not ‘specify whether – and, if so, how – a human rights framework for authors’ rights differs from the legal rules contained in intellectual property treaties and domestic legislation’ (ibid.).
- <sup>125</sup> World Conference on Human Rights, Vienna Declaration and Programme of Action (25 June 1993), UN Doc. A/CONF.157/23 (1993), available at: [http://www.unhchr.ch/huridocda/huridoca.nsf/\(symbol\)/a.conf.157.23.en](http://www.unhchr.ch/huridocda/huridoca.nsf/(symbol)/a.conf.157.23.en) (accessed 15 January 2010). On the interdependence and indivisibility of human rights, see especially Eide 2007, pp. 13–14.

- <sup>126</sup> The Sub-Commission noted that actual or potential conflicts exist between the implementation of the TRIPS Agreement and the realization of economic, social and cultural rights in relation to, inter alia: ‘impediments to the transfer of technology to developing countries, the consequences for the enjoyment of the right to food of plant variety rights and the patenting of genetically modified organisms, “bio-piracy” and the reduction of communities’ (especially indigenous communities’) control over their own genetic and natural resources and cultural values, and restrictions on access to patented pharmaceuticals and the implications for the enjoyment of the right to health’.
- <sup>127</sup> Specifically, it requested the WTO and the Council of TRIPS ‘during its ongoing review of the TRIPS Agreement, in particular, to take fully into account the existing State obligations under international human rights instruments’ (ibid., para. 8).
- <sup>128</sup> Chon has remarked that ‘the capabilities approach gets us past “rights talk” and into a more pragmatic, instrumental policy space that is consistent with the prevailing IP paradigm’. She adds that ‘the capabilities approach helps us to understand that the discourse is not about duelling rights but about what the goals (e.g. the Millennium Development Goals [MDGs]) can be for global public goods production facilitated by IP’ (pers. comm. Margaret Chon, 21 December 08).
- <sup>129</sup> See Office of the High Commissioner on Human Rights (OHCHR), ‘Background on the Right to Development’, <http://www2.ohchr.org/english/issues/development/right/index.htm> (accessed 1 May 2010).
- <sup>130</sup> See Convention establishing the World Intellectual Property Organization (Stockholm, 14 July 1967), 828 U.N.T.S. 3, 21 U.S.T. 1749 (entered into force 26 April 1970), as amended on 28 September 1979, available at: [http://www.wipo.int/export/sites/www/treaties/en/convention/pdf/trtdocs\\_wo029.pdf](http://www.wipo.int/export/sites/www/treaties/en/convention/pdf/trtdocs_wo029.pdf) (accessed 3 February 2010). According to Article 3(i) of the Convention, the objectives of the Organization are ‘to promote the protection of intellectual property throughout the world through cooperation among States and, where appropriate, in collaboration with any other international organization’.
- <sup>131</sup> See, for example, the full-fledged ‘IP Development Plan’ signed in 2008 by the Republic of Ghana with WIPO.
- <sup>132</sup> Summarizing Copestake, J. 2007, ‘How Relevant is Well Being to International Development Policy and Practice?’ paper presented at the *International Conference of Well-Being in Developing Countries*, University of Bath, UK, 28–30 June 2007, available at: <http://www.welldev.org.uk/conference2007/final-papers/plenary/JGC-WeD-plenary-d2-paper.pdf> (accessed 21 December 2008).
- <sup>133</sup> Note the special theme of ‘Indigenous Peoples: Development with Culture and Identity’ at the Permanent Forum on Indigenous Issues, Ninth Session, 19–30 April 2010. See [http://www.un.org/esa/socdev/unpfii/en/session\\_ninth.html](http://www.un.org/esa/socdev/unpfii/en/session_ninth.html) (accessed 10 January 2010).
- <sup>134</sup> Note the ongoing work by indigenous peoples’ organizations and partner institutions in identifying indicators relevant to measuring the well-being of indigenous peoples (see especially Indigenous Peoples’ International Centre for Policy Research and Education [TEBTEBBA] 2008).
- <sup>135</sup> Remarks by Victoria Tauli-Corpus at ‘Human Development and Indigenous Peoples’, Focus Group Discussion between Representatives of Indigenous Peoples’ Expert Group and UNDP, 11 January 2010, New York.
- <sup>136</sup> See the Summary on the Focus Group Discussion between Representatives of Indigenous Peoples’ Expert Group and UNDP, 11 January 2010, New York, available at: [http://hdr.undp.org/en/media/IP\\_Experts\\_Meeting\\_HDR\\_2010\\_Jan2010.pdf](http://hdr.undp.org/en/media/IP_Experts_Meeting_HDR_2010_Jan2010.pdf) (accessed 1 March 2010); see also UN 2009.
- <sup>137</sup> For example, the protection of TK may be seen not only in terms of human rights attenuation (see UN Declaration on the Rights of Indigenous Peoples 2007, Article 31), but also in terms of a ‘local first’ approach to development where the perspectives of indigenous peoples and other local communities are increasingly brought to the fore – not least through their own advocacy – in defining the contours of social and legal policies, including IP policy.
- <sup>138</sup> United Nations Millennium Declaration (8 September 2000), G.A. Res. 55/2, UN Doc. A/RES/55/2 (2000) [hereinafter ‘UN Millennium Declaration’], available at: <http://www.un.org/millennium/> (accessed 22 June 2009). See UNDP 2003.
- <sup>139</sup> This helpful articulation is owed to an anonymous reviewer from Cambridge University Press whose comments, along with those of other reviewers, have been invaluable towards fine-tuning this book.
- <sup>140</sup> For a discussion of how the term ‘public interest’ has been interpreted by the law courts in a number of countries (including UK, France, Germany and the US), see Davies 2002.

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<sup>141</sup> It has often been argued that there is also ‘intrinsic value’ in bio-cultural diversity. Remarks from Eleanor Sterling at the North American Launch of the International Year of Biodiversity, The American Museum of Natural History, New York, 10 February 2010. See Maffi (ed.) 2001.

<sup>142</sup> Much thinking and work remain to be carried out, not least in defining what is meant by such access, going well beyond often heard concepts of North-South ‘technology transfer’ to encourage balanced exchanges among knowledge holders from different cultures. Remarks from Alan Story at A2K3 Conference, Geneva, 8–10 September 2008.