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## Access to Knowledge, Educational, Technical and Scientific Information

*This final chapter focuses on copyright-related challenges faced by developing countries with respect to new developments that might have an impact on access to knowledge and information.*

### Background

From the perspective of a major industrialized country, a report of the Royal Society Working Group on Intellectual Property of April 2003, endorsed by the Council of the Royal Society (United Kingdom), reached the following conclusion:

*“Advances of technology and commercial forces have led to new IP legislation and case law that unreasonably and unnecessarily restrict freedom to access and to use information. This restriction of the commons in the main IP areas of patents, copyright and database right has changed the balance of rights and hampers scientific endeavour. In the interests of society, the balance must be rectified.”<sup>1</sup>*

The challenges faced by developing countries with respect to access to knowledge has been

summarized by UNESCO in the following terms:

*“The creation and ownership of knowledge products are of increasing importance because of the centrality of information and knowledge to post-industrial economies. ... Copyright has emerged as one of the most important means of regulating the international flow of ideas and knowledge-based products, and will be a central instrument for the knowledge industries of the twenty-first century. Those who control copyright have a significant advantage in the emerging, knowledge-based global economy. The fact is that copyright ownership is largely in the hands of the major industrialized nations and of the major multimedia corporations, placing low per capita income countries as well as smaller economies at a significant disadvantage.”<sup>2</sup>*

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### Importance of access to foreign works

For developing countries whose knowledge systems are dependent upon foreign publications, price is obviously a very important determinant of access. Academic journals published by the large transnational publishing houses tend to be very expensive. The Commission on IPRs (see box 1.2), in its report (page 102), concluded in this regard that there must be scope for the use of more differential pricing in developing countries, that would either be revenue-neutral or even revenue-enhancing for producing industries.

Moreover, educational, research and scientific materials cover a much wider range of goods, such as electronic databases comprising digital journals and teaching and research software. The users may be tempted to encourage or turn a blind eye to the copying of such texts. This creates a difficult dilemma for developing countries. Should they clamp down on copyright infringers, but allow prices of texts to be prohibitively high for most students, educational and scientific institutions? Or should they allow copying with impunity, and risk being

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threatened with trade sanctions by the governments of the copyright-owning publishing companies if they fail to enforce copyright?

The Berne Convention for the Protection of Literary and Artistic Works offers some support for developing countries in this regard. The 1971 Paris Act of the Convention contains an Appendix which provides - subject to just compensation to the right owner - "for the possibility of granting non-exclusive and non-transferable compulsory licensing in respect of: (i) translation for the purpose of teaching, scholarship or research; and (ii) reproduction for use in connection with systematic instructional activities,

of works protected under the Convention."<sup>3</sup> However, the Annex's provisions are complicated, laden with restrictions and qualifications, and therefore difficult to put into practice. Consequently, it has only rarely been used.<sup>4</sup> Indeed, only eight developing countries are currently availing themselves of the two options. Another country has adopted option (ii) alone. Clearly other solutions must be found. The Report of the Commission on Intellectual Property Rights characterizes the experience so far as not effective: "Further reforms are therefore needed, and different measures may be more or less important in meeting the specific needs in individual countries." (Commission Report: 100)

## The issue of "fair use"

Copyright law seeks to strike a balance between the rights of the owners and the rights of users by allowing, within certain limits, unauthorized reproduction or communication of protected works. This

is called "private use" (EU and other civil law jurisdictions), or "fair use" (United States), or "fair dealing" (United Kingdom and other Commonwealth jurisdictions) (see box 9.1).

### Box 9.1: "Fair use" or "fair dealing"

"Fair use" (or "fair dealing") provisions establish exceptions to copyright, authorizing third parties to use protected works on certain conditions. Such exceptions mirror the public objectives of copyright, i.e. to make creations and information widely available to the public. Fair use is permitted in international copyright instruments such as the Berne Convention and the WIPO Copyright Treaties of 1996 (so called "Internet treaties"), but States remain free to decide on whether to implement fair-use provisions in their domestic legislation.<sup>5</sup> The scope and flexibility of these exceptions vary widely between countries, but generally have to meet the following requirements when applied to the right of reproduction:<sup>6</sup>

- Copying may only be done for *private, non-commercial* purposes, and only a *small amount* of copies may be made.
- Hard copy works may typically only be copied by reprographic processes. Possibilities exist with respect to the copying of electronic works (e.g. time-shifting of TV programmes or archiving of computer software).
- In case of exemptions to the benefit of archives or libraries, such institutions must be open to the public and their copies used for non-commercial purposes only.

Trends in international copyright treaties as well as in national legislation show increasing efforts on the part of developed countries to reduce or exclude the possibility of fair use. This is done, in particular, with respect to the circumvention of technological measures used by authors to prevent the unauthorized copying of their works ("encryption"). In this context, the WIPO Copyright Treaty (WCT) (see also chapters 2 and 4) in Article 11 obligates parties to

make available adequate legal protection and effective legal remedies if the copying is not authorized by the author, or if it is not permitted by domestic law. This means that parties to the WCT may choose to make fair-use provisions entirely dependent on the permission of the copyright holder, or not to include them at all. On the other hand, it also means that parties are free to uphold fair-use provisions for public policy purposes *even against the will of the*

*author*.<sup>7</sup> By contrast, the United States 1998 Digital Millennium Copyright Act (DMCA) makes illegal any act circumventing encryption technologies, even in cases traditionally considered legal under the "fair-use" exception. This kind of approach to encryption is by no means made mandatory either by the TRIPS Agreement or by the WCT. Developing countries are free to deny protection to encryption technologies when these are used to prevent certain public policy goals, such as distance learning. However, the adoption of "WCT-plus" provisions, modelled after the United States DMCA are being promoted through bilateral agreements.

Developing countries should be aware of the types of exceptions covered by the DMCA. These include non-profit libraries, law enforcement, intelligence and other government activities, reverse engineering to make software inter-operable, encryption research, technology used to prevent minors from access, measures used to protect identifiable information, and security testing. Some might consider that these types of measures should fall under the general fair-use exception, whereas others consider that they should be explicitly spelled out to assure legal certainty to users.

## Options for developing countries

One option for developing countries is to encourage educational, research and scientific usage of copyright material by relying on the exceptions within national copyright laws. However, there are concerns that, as part of the tendency towards strengthened copyright protection, such excepted uses will be one of the casualties.

The concept of excepted uses is being restricted, and may be restricted further. It may be argued that, for example, a blanket copyright policy in relation to non-commercial purposes falls foul of the three-step test set out in Article 13 of TRIPS (see box 9.2). All limitations or exceptions must comply with this test, and the foremost rule is that limitations or exceptions to exclusive rights under the copyright regime can only be granted in "certain special cases". Usage for non-commercial purposes may be too widespread to count as a "certain special case". However, as noted earlier, under the Berne Convention, which is integrated into the TRIPS Agreement by reference, developing countries are authorized, on certain conditions, to issue compulsory licenses for the reproduction of copyrighted material "for use in connection with systematic instructional activities"<sup>8</sup>; but, as also noted, this facility has rarely been used. In addition, domestic legislation that *conditioned* the unauthorized printing of schoolbooks and other teaching materials on the respect of the criteria referred to under the Berne Appendix would actually be confined to "certain special cases" within the meaning of Article 13 of the TRIPS Agreement.

### Box 9.2: Article 13 of TRIPS

Members shall confine limitations or exceptions to exclusive rights:

- to certain special cases
- which do not conflict with a normal exploitation of the work
- and do not unreasonably prejudice the legitimate interests of the right holder

The second requirement under TRIPS Article 13 is that the exception does not "conflict with a normal exploitation of the work". Such exploitation is inhibited where the copyright holder loses an opportunity of extracting economic value from his copyright in the market. As far as teaching or research materials in developing countries are concerned, teaching institutions, students and researchers usually do not have the financial means to purchase such material. Therefore, from the copyright holder's perspective, there is no lost market opportunity in case of unauthorized use.

Finally, the third condition under Article 13 requires that the exception should not "unreasonably prejudice the legitimate interests of the right holder." Here, it could be argued that a right holder who wishes to prevent the free distribution of copies of his work for non-commercial purposes lacks any legitimacy for doing so. While in the case of non-commercial use, right holders do not run the risk of economic losses, they would, by preventing the free

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distribution of their works, deprive societies in poor countries of the benefit of new knowledge.<sup>9</sup>

One may also argue that Article 10(2) of the Berne Convention (which is incorporated into the TRIPS Agreement), also provides authorization to permit reproductions for educational purposes, as the provision stipulates that:

*It shall be a matter for legislation in the countries of the [Berne] Union, and for special agreements existing or to be concluded between them, to permit the utilization, to the extent justified by the purpose, of literary or artistic works by way of illustration in publications, broadcasts or sound or visual recordings for teaching, provided such utilization is compatible with fair practice.*

However, the wording of the provision is ambiguous. For example, is there a limit on the amount that may be copied from any given work? What do the words “to the extent justified by the purpose” mean? It is arguable that there is no necessity to copy a whole work in order to convey the information required for the teaching purpose. On the other hand, the phrase does not preclude copying the whole work in appropriate circumstances. Ricketson suggests that Article 10.2 also permits the preparation for teaching purposes of compilations antholo-

gising all or parts of a variety of works.<sup>10</sup> The term “provided such utilization is compatible with fair practice” also suggests the need to refer back to the three-step test.

The fair-dealing or fair-use defence is usually limited to the person actually engaged in study or research, and does not extend to the person or firm facilitating these activities for others. Thus, copy shops which enable such educational usage cannot avail themselves of such a defence.<sup>11</sup> The reservation of the defence for a private individual, however, does not take into account the commonplace and economically dictated practice of multiple copying within educational institutions and copy shops caused by the high ratio of students to library resources, and the wider selection of reading material today as opposed to 30 years ago.

Public policy in both developing and developed countries tends to favour public access to works for educational and research usage. In developed countries, a balance has been reached by allowing complete reliance on the private-use/fair-dealing exceptions, but only in conjunction with some sort of payment of a licensing fee. Thus works are freely available for copying, but local collecting societies, representing authors and/or publishers, negotiate with user groups and collect a fee.<sup>12</sup>

## Collective management

Collective management is in the interest of both authors and those users who find themselves faced with increasingly lengthy, costly search, which often proves incomplete. Collecting societies or rights management organizations have become an essential practical and economic ingredient within the copyright regime. If usage of technical and scientific information is to be compensated for, the most common approach is for a collective agreement between the rights owners and the main users of the works (i.e. the relevant public authorities). A blanket licence obliterates the need to determine whether the usage in question is inside or outside the fair-use or fair-dealing exceptions. For users, it is more expedient to be directed to one entity, which manages the rights in relation to a specific category of work, thus saving them incurring trans-

actional costs in terms of search and negotiation in obtaining licences from different authors in respect of different works. Collective management and blanket licensing are the common means by which reprographic copying in the educational sector is controlled.

In this context, the Commission on Intellectual Property Rights (see box 1.2) cautioned developing countries on the resort to collecting societies. Its Report suggested that collective management organizations can potentially wield significant market power, and may act in an anti-competitive manner, particularly in countries with weak institutional capacities and regulatory frameworks. It thus concluded that :

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*“it would seem imperative that the full costs of establishment and operation of such agencies in developing countries are demonstrated transparently from the outset and that these are borne by copyright holders as the direct beneficiaries.”<sup>13</sup>*

The burden of administration and proof should thus be placed on rights owners rather than users. That there is a high transactional cost involved in collective management is clear from the evidence tendered by Denise Nicholson, Copyright Services Librarian at the University of Witwatersrand, South Africa to the study by the Commission on Intellectual Property Rights.<sup>14</sup> She highlighted the following problems, which are likely to be experienced by universities, not only in the developing world but also in the developed world:

1. Getting copyright clearance may impose a heavy administrative burden;
2. Obtaining permission directly from publishers for works excluded from or not mandated to the rights organization is time-consuming, expensive (payable in foreign currency) and difficult;
3. Translating from one language to another causes problems. In some developing countries many languages may be spoken, and permission normally has to be sought for all translations;
4. Public domain material, such as government documents, are not easily accessible, and often are required to be reproduced from published versions of the documents, which involves having to get copyright clearance and paying high copyright fees;
5. Obtaining permission to transfer print into other formats (e.g. onto compact discs or websites) creates problems, as publishers are reluctant to give permission or they charge exorbitant fees; indeed, medical lecturers, for example, wishing to use anatomical diagrams

from websites or wanting to scan them into other formats, cannot do this without going through the whole process of getting permission, which is often not given or levied with high copyright costs. In many instances, rural medical personnel do not have access to such learning tools as computers, and their only sources of information are materials prepared and provided by medical institutions and academic teaching hospitals;

6. Using material from multimedia or online resources for educational and other programmes creates problems, as users do not always know where to obtain permission. Often no response is received or strict conditions are applied and high levies are charged for use of the material; and
7. Copyright fees for electronic databases are usually incorporated in the subscription fee. However, each database has its own contract and conditions as to what can and cannot be copied, which makes it difficult for users and library staff to know how to respond.

One means of resolving the problem of mandate, as indicated in point 2, is through the extended collective licence scheme adopted in the Scandinavian countries, where an agreement between a collecting society and a user will cover all works within the same field, regardless of whether the authors of the works are members of the collecting society. This protects the copyright user from having to pursue individual authors.

The alternative licensing programme is the one found in most European countries, where a “tax” is imposed on all copying machines (including scanners) and accessories (such as blank tapes, paper and disks). This would have the effect of directly targeting, and taxing, the manufacturers of such devices, as opposed to placing the whole burden of usage of materials on educational users.<sup>15</sup>

## Database protection

The above testifies to the further problems which will ensue if and when the international community follows the EU example of adopting *sui generis* protection of databases. Under the EU's *sui generis* regime, introduced in 1996, database creators have the right to prevent extraction of the whole, or a substantial part, of the contents of a database for a period of 15 years, although this term of protection is renewable whenever substantial changes are made (e.g. by adding new data). Where publishers release digital versions of journals, as part of a larger database, the user may have to contend with the database right, which is independent of copyright. That right will inevitably reside with the publisher, and the author will not necessarily have an implied licence with which to use the work.<sup>16</sup>

As to the choice between copyright law or a *sui generis* system for the protection of databases, it is true that strengthened rights under a *sui generis* approach might encourage increased production of these works. However, it is important to consider that a *sui generis* right extends to material that is not protected by copyright law.<sup>17</sup> Consequently, what has been considered a deliberate "leak" in the

copyright system - one intended to give second-generation innovators "raw materials" to work with - will be plugged by a database protection model like that of the EU. The potentially high costs to the public of obtaining information under this type of system, and the effects on competition, must be balanced with the goal of protecting databases. Like other forms of proprietary interests, a database protection system should attempt to balance the competing interests at stake to ensure that economic welfare goals are maximized.<sup>18</sup>

The Royal Society in its report on this matter concluded:

*"New database right legislation, initiated in Europe and introduced in the UK in 1998, has been driven by media and commercial interests and is potentially very damaging to scientific research. It rewards the creator of the database rather than the creator of the data, through in science the latter is the more costly contribution. Unlike copyright, database rights effectively protect the data themselves, which cannot be extracted and re-used except under restricted fair dealing arrangements."*<sup>19</sup>

## Technological devices and challenges

Information technology provides both opportunities and threats for the copyright industries, including the publishing industry, which is the main supplier of educational and technical knowledge content. It sometimes appears, though, that these industries would prefer to emphasize the threats when lobbying governments to reform the law to accommodate technological changes. It has been argued that technological developments make it difficult for both authors and publishers to control the dissemination and use of works, and to enforce their exclusive rights. In fact, technology can be employed to assist rights owners in tracking their works, in facilitating collection and distribution of monies payable to authors, and in supporting the educational sector by, for example facilitating clearance for the use of both paper and electronic material; providing bibliographic material on journals that includes not only ISBN numbers and names of publishers, but also the names of the authors of individual articles; providing

online sales of extracts or individual chapters of books, or journal articles rather than whole books, or whole series of titles; and offering a site licence for certain books or chapters to be placed online on closed or locked university websites.<sup>20</sup> Technological developments also enable the digitisation of copyright works and facilitate access to many works which hitherto may have been unavailable to many consumers.

The irony is that the legal structure for authors to support the use of technology is available. Changes, as also discussed in chapter 4 above, in both international and European copyright laws have already vested in authors not only a new "Internet" right but also an "anti-circumvention" right, which assists the rights holder in "locking" or encrypting digital products so as to prevent unauthorized reproduction or use of a copyright work. Nevertheless, the industry has yet to respond in a meaningful fashion. Rapid

*A sui generis right extends to material that is not protected by copyright law*

development and experimentation in Electronic Copyright Management Systems (ECMS) may eventually result in greater individual management by authors or universities on their behalf. Thus universities in developing countries, for example, may, in the future, be able to deal directly with their peers from other universities, rather than through commercial publications. Technology may eventually remove the need for collecting societies, which begs the question: is collective administration of the reprographic reproduction right in respect of educational usage the only practical means for rights owners to safeguard their rights?<sup>21</sup> Although online databases such as Westlaw and Medline are currently offering such services in respect of journals and certain books, and this policy could be extended to all books, especially those aimed at the academic market, the main problem which remains is that of cost.

Scientific research and technological advancement are dependent upon the free exchange of knowledge across national boundaries. However, such knowledge is increasingly being locked up by IPR-related considerations. It is also being restricted by regulations to enhance national competitiveness in

the developed countries and by lack of access of developing-country scientists and engineers to the most advanced educational institutions and scientific publications. In response to this, Barton has proposed an international treaty to preserve the scientific and technological commons:

*“The key legal provision of such a treaty would require that, in as many ways as possible, foreign scientists and firms be treated the same way as national ones with respect to access to a nation’s scientific and technological support and capability. Specific provisions might include reciprocal commitments to ensure that the benefits of publicly funded research are made available to all and not just to nationals. Similar reciprocal commitments would prohibit favouritism to national firms in areas like participation in research consortia and access to research-oriented tax benefits. These would have to be balanced by safeguard provisions, to ensure, for example, that intellectual property associated with international scientific and technological collaboration is managed in a fair way, and to respond appropriately to national security and technology proliferation concerns, as with respect to military uses of biotechnology.”<sup>22</sup>*

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## CHAPTER 9: END NOTES

- <sup>1</sup> The Royal Society (April 2003), "Keeping science open: the effects of intellectual property policy on the conduct of science", page v, [www.royalsoc.ac.uk](http://www.royalsoc.ac.uk).
- <sup>2</sup> See UNESCO, "World Information Report 1997/98", Paris: UNESCO, 1998: 320 at: [http://www.unesco.org/webworld/com\\_inf\\_reports/wirenglish/chap23.pdf](http://www.unesco.org/webworld/com_inf_reports/wirenglish/chap23.pdf).
- <sup>3</sup> WIPO, "Intellectual Property Reading Material", Geneva: WIPO, 1998: 260-261.
- <sup>4</sup> Correa, CM, "Intellectual Property Rights, the WTO and Developing Countries: The TRIPS Agreement and Policy Options", London, New York and Penang: Zed Books and Third World Network, 2000.
- <sup>5</sup> See, for example, Article 9(2) of the Berne Convention: "It shall be a matter for legislation in the countries of the Union to permit the reproduction of such works in certain special cases, provided that such reproduction does not conflict with a normal exploitation of the work and does not unreasonably prejudice the legitimate interest of the author."
- <sup>6</sup> See the Report of the Commission on Intellectual Property Rights: 100, box 5.1.
- <sup>7</sup> See the *Resource Book on TRIPS and Development*, Part Two, section 2.1 on Article 10.1 of TRIPS.
- <sup>8</sup> See Article III (2) (a) (ii) of the Appendix to the Berne Convention. For more details see the *Resource Book on TRIPS and Development*, Part Two, section 2.1.6 on Article 13 TRIPS (limitations and exceptions).
- <sup>9</sup> See the *Resource Book*, *ibid.*
- <sup>10</sup> Ricketson, S, "The Berne Convention for the Protection of Literary and Artistic Works 1886-1986", London: Kluwer, 1987: 499.
- <sup>11</sup> *American Geophysical Union v Texaco, Inc.* 60 F.3d 913 (2nd Cir. 1995), where the court adopted an extremely narrow application of the fair-use principle to hold a research scientist guilty of copyright infringement for making single photocopies of eight scientific articles from various issues of a scholarly journal.
- <sup>12</sup> There are three types of fees: compulsory licence fee; voluntary collective licensing fee; and equipment levy.
- <sup>13</sup> Commission on Intellectual Property Rights, "Integrating Intellectual Property Rights and Development Policy". Report of the Commission, London, September 2002: 98-99.
- <sup>14</sup> Story, A, "Study on Intellectual Property Rights, the Internet, and Copyright", London: Commission on Intellectual Property Rights, 2002.
- <sup>15</sup> Cornish, WR, "Intellectual Property: Patents, Copyright, Trade Marks and Allied Rights" (fourth edition), London: Sweet and Maxwell, 1999, para 13.20.
- <sup>16</sup> Directive 96/9/E.C. of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases.
- <sup>17</sup> For more details on the difference between the copyright approach and the *sui generis* approach as provided in the EU's Database Directive, see the *Resource Book*, Part 2.1.3 on Article 10.2 of TRIPS (sub-section 6.3).
- <sup>18</sup> See the *Resource Book*, Part 2.1.3 on Article 10.2 of TRIPS (sub-section 7).
- <sup>19</sup> The Royal Society, *op.cit*, page v.
- <sup>20</sup> Koskinen-Olsson, T and Gervais, D, "Electronic commerce and copyright: a key role for WIPO", in *WIPO Advisory Committee on Management of Copyright and Related Rights in Global Information Networks*, Geneva: WIPO, 1999 (Document No. APMC/2/1).
- <sup>21</sup> Article 8 of the WIPO Copyright Treaty 1996; Article 3, Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonization of certain aspects of copyright and related rights in the information society.



<sup>22</sup> Presentation made on 11 April 2003 at the Palais des Nations, Geneva, in the context of the Science and Technology Diplomacy Initiative and the UNCTAD-ICTSD Project on IPRs and Sustainable Development: Policy Dialogue on a Proposal for an International Science and Technology Treaty. Full text available at: [http://www.ictsd.org/dlogue/docs/tech\\_transfer\\_dialogue.pdf](http://www.ictsd.org/dlogue/docs/tech_transfer_dialogue.pdf).

