COPYRIGHT: THE UNFURLING OF AN INTERNATIONAL STANDARD IN THE DIGITAL FRONTIER

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THE IMPACT OF DIGITISATION

The Historic Adaptability of Copyright

The dual impact of computers and telecommunications has been such that digitisation has become an unremarkable feature of daily life. Digitisation has liberated flows of information by enabling data to be transferred in abstract digital form. In this abstract form, data may be easily and quickly manipulated, stored and transferred over vast distances. Changes bring about a need to adapt, and this in turn stimulates developments in the legal realm. However, rule flexibility is a drafting ideal, more so since the law inevitably lags behind technology. The history of copyright indeed is a history of a body of law that has over almost three hundred years proven to be remarkably accommodating of technological change.

The first Copyright Act[1] was passed to restrain the copying of published works, as previously such works were unprotected, and their replication controlled by indirect means.[2] Although the Act vested "the Copies of the printed books in the Authors or Purchasers of such Copies, during the Times therein mentioned",[3] infringement actions tended to be brought by publishers rather than authors. It was considered undignified to write for money[4] whereas the purchase of the Copy in commissioned works, with a view to profit from as many printing runs of the work as possible, was an

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1 The Act of Anne, 8 Anne, c 19 (1710).

2 Such as by restricting the replication of printing typefaces, or participation in the printing trade. For example see (UK) 1662 Printing Act, 13 & 14 Car 2, c 33.

3 Preamble to the Act; see note 1. The Preamble goes on to state: "Whereas Printers, Booksellers and other Persons have of late frequently taken the Liberty of printing, reprinting, and publishing, or causing to be printed, reprinted and published, Books and other Writings, without the Consent of the Authors or Proprietors of such Books and Writings, to their very great Detriment, and too often to the Ruin of them and their Families; For preventing therefore such Practices for the future."

4 Public consumption and consequent regard for writers (who in any case tended to have private incomes) were widely considered to be sufficient reward for authors.

essential part of a printer's business. However, when writing for profit began to be regarded as an honourable profession, authors began to actively enforce their rights over the "Copy" of their works.

It was considered to be in the public interest that such rights be protected. The public interest was believed to be at risk from the unauthorised reproduction of works because authors would be deprived of reasonable financial reward and in turn discouraged from further creative effort. The discouragement of writing would lead to the creation of fewer works and limited the pool of knowledge available to the public. Community access to the fruit of such creative endeavour was regarded as an important factor affecting the overall development and well being of society, and for this reason to be in the public interest. Therefore, by providing exclusive rights but limiting their duration it was sought to provide a means through which public access to works could be provided without frustrating or compromising the reasonable financial expectations of Copyholders. As a result, in common law systems particularly, copyright has long been premised on the need to balance expectations of authors with the public interest. In civil law countries where authors' rights are conceived more as fundamental human rights, there has been a lesser emphasis on the public interest.

Though technological changes in the last one hundred years in particular[5] have necessitated some changes and additions to the law, the copyright framework has been consistent in maintaining a finely tuned balance between these competing interests. The calibration necessary for this delicate balance has been provided *inter alia* by the use of specifically defined categories of protected output, limitations on the duration of exclusive rights, and the creation of exceptions to exclusive use by right holders. However, digitisation is threatening to irreparably alter this balance.

As the impact of information technology increased, the nature of the rights, if any, subsisting within digital data comprising computer programs, became a matter of keen interest. It was widely assumed that copyrights would prove flexible enough to encompass computer programs. Although distinct features stemming from its digital nature were acknowledged as unprecedented, it was felt that in the copyright protected category a literary

5 For example, broadcasting technology and reprographic technology.

work was likely to be the most appropriate vehicle for protection.[6]

As early as 1976 in the United States, for example, the Copyright Act was amended to refer to works capable of automated processing reproduction or storage. Further in *Tandy Corporation v Personal Micro Computers Inc*[7] it was declared that computer programs were works of authorship. Following the report of Meaning of CONTU[8] in 1978, the 1980 Computer Software Copyright Act inserted provisions expressly referring to computer programs into the 1976 Copyright Act ("CA 1976").

In Australia, the 1968 Copyright Act ("CA 1968") was amended to insert specific references to computer programs as literary works in 1984. This was a speedy response to the furore and intense lobbying the *Apple Computer Inc v Computer Edge Pty Ltd* cases[9] had generated. Although the finding of the trial judge that neither computer source code nor object code was protected by copyright (reversed in the Federal Court), the High Court ultimately found that the object code was unprotected. The trial finding caused such dismay that a Joint Ministerial Statement was released to announce the government's intention to provide statutory protection for software. Within a week of the High Court's decision, the 1984 Copyright Amendment Act was passed.[10]

Among the amendments to the Act was the introduction of new or expanded definitions of terms such as "literary work", "material form", "adaptation" and "translation". Unfortunately, they did not settle all doubt about the protection of computer programs. For example, the definition of

6 For example, since 1964, computer programs had been accepted for copyright registration as "books" under the US Copyright Office's "rule of doubt": Copyright Office Circular No 6; Cary, "Copyright registration and computer programs" (1964) 11 Bulletin Copyright Society USA 362, referred to in Gaze, Copyright Protection of Computer Programs (1989, Federation Press, Melbourne) chapter 2 note 36.

7 (1981) 524 F Supp 171 (ND Cal). In this case Peckham CJ found that a computer program is a work of authorship, and a ROM a tangible medium of expression able to satisfy copyright fixation requirements; compare Data Cash Systems Inc v JS & A Group Inc (1979) 480 F Supp 1063, 203 USPQ (ND Ill) where Flaum J held that a duplicate of the object code in ROM was not a copy as it was not discernible to the human eye, and thus did not infringe the copyright in the embodied program.

8 Namely, the Commission on New Technological Uses of Copyrighted Works set up in 1974.

9 (1983) 52 Australian Law Journal Reports 581; (1984) 53 Australian Law Reports 255 (Full Federal Court); (1986) 161 Commonwealth Law Reports 171 (High Court).

10 See the 1984 Copyright Act Amendment Act (Cth); Gaze note 6 at 76-99.

computer program could be read to implicitly exclude object code, and it was still not clear if a computer program had to be visible to be protected as a literary work.[11] Although it was subsequently held in *Autodesk v Dyason*[12] that object code was protected as a computer program, the reasoning adopted in some of the judgments raised the spectre of infringements based on functional similarity.[13]

THE FUNDAMENTAL OBJECTIVES OF COPYRIGHT

It is trite law that patents protect ideas while copyrights protect only the expression of an idea.[14] Perhaps there are three most fundamental principles of copyright protection in existence.

First, copyrights protect the expression of an idea and not the idea itself. The idea/expression dichotomy is crucial to the concept of copyrights in common law systems. In cases where this dichotomy cannot be maintained, for example where the two features are indistinct, the "merger" doctrine may apply to preclude protection of the work by copyright.[15]

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11 For more on this point see Greenleaf, "Intellectual property and data protection: how safe are the pirates?" (1988) 62 Australian Law Journal 457; Gaze note 6 at 76-103.

12 (1989) 15 Intellectual Property Reports 1 (Federal Court); (1990) 24 Federal Court Reports 147 (Full Federal Court); (1992) 22 Intellectual Property Reports 163 (High Court; Judgment No 1).

13 For example, the Court equated substantiality with essentiality, holding that the replicated look up table was a substantial part of a protected computer program, because it was essential to its functioning. In fact the program could have been devised in such a way that it would not require the look up table. The data replicated amounted to a string of digits, and the sequence in which they occurred had been ascertained by means of an oscilloscope. However, the defendant was found guilty of copying data to which there had been no direct access, and this was seen as greatly narrowing the scope of permissible reverse engineering. This raised further questions about the protection of raw data, the meaning of "originality" and the distinction between ideas and their expression. The finding of an infringement had also hinged on the fact that the replicated data was a "reproduction in material form", yet this would not have been the case if the defendant had chosen to include a routine to generate the digits within his version, rather than store same in EPROM. For further comments on this case see Fitzsimmons and anor, "Autodesk v Dyason" (1992) 22 Computers and Law 3-8; Burnside, "Case Note: High Court of Australia revisits Autodesk" (1993) 23 Computers and Law 2-5; Greenleaf, "Autodesk No 2" (1994) 67 Australian Law Journal 445, 541.

14 For example, the GATT TRIPs Agreement reiterates in Article 9 that copyright protection is to be extended to expression only and not ideas. See discussion below.

15 See Baker v Seldon (1880) 101 US 99. The "merger" doctrine recognises that the

Secondly, copyrights are rights of derivation which provide rights over creations derived from the protected subject matter. Creations which are independently developed do not infringe this right irrespective of how similar they may be to the protected work.

Thirdly, copyrights are distinct from property rights over the same subject matter.[16]

The first two principles have been eroded by what is sometimes called the "look and feel" doctrine. The distinction between the expression of an idea and the idea itself has never been an easy one.[17] It can be very difficult indeed, particularly in the context of computer programs where the data concerned will have not only expressive characteristics, but functional ones as well.

DISTINGUISHING IDEAS FROM THEIR EXPRESSION

Programming involves a progression through different stages. The progression may run through the mental inspiration for the idea, its

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expression and underlying idea of a work may be so closely lined as to make it impossible to replicate one without the other. This may be the case of example because the contested expression is in fact the sole means of stating that idea, is necessarily incidental to a statement of the idea, or is the most efficient method of stating the idea. It will be considered in such cases that the idea and its expression have merged, and copyright protection will consequently be very limited, it not withheld altogether. See also Kenwick v Lawrence (1890) 25 Queen's Bench 99. Fitzsimmons note 13 at 163.

16 For example, see Pacific Film Labs v Federal Commissioner of Taxation (1970) 121 Commonwealth Law Reports 154.

17 For example, see the comments of Pritchard J in Plix Products v Frank Winstone (1985) 3 Intellectual Property Reports 390: "There are in fact two kinds of 'ideas' involved in the making of any work which is susceptible of being the subject of copyright. In the first place, there is the general idea or basic concept of the work. This idea is formed (or implanted) in the mind of the author...Then there is the second phase - a second kind of 'idea'. The author of the work will scarcely be able to transfer the basic concept into a concrete form - to express the idea - without furnishing it with details of form and shape. The novelist will think of characters, dialogue, details of plot and so forth...All these modes of expression have their genesis in the author's mind - these too are 'ideas'. When these ideas (which are essentially constructive in character) are reduced to concrete form, the forms they take are where the copyright resides...The difficulty of course is to determine just where the general concept ends and the exercise of expressing the concept begins. It is...an ill defined boundary": ibid at 418-419.

expression in general logical segments, the reduction of same to a series of detailed statements, the expression of each statement into programming language, and subsequent conversion into microcode. Thus, the idea of the program may be any of its function, its underlying algorithm, its intended results or its logical structure. In fact, the program may represent an aggregation of different ideas, in which case attempts to identify a single underlying idea will be a misguided quest.

The test for distinguishing idea from expression was described in *Whelan v Jaslow Dental Labs* in the following terms:

> The line between idea and expression may be drawn with reference to the end sought to be achieved by the work in question...The purpose of function of a utilitarian work would be *the work's idea*, and everything that is not necessary to the purpose or function would be part of *the expression of the idea*...Where there are various means of achieving *the desired purpose*, then the particular means chosen is not necessary to the purpose; here there is expression, not idea.[18] (emphases added)

This reasoning has been criticised. In *Computer Associates International v Altai* for example, the Court declined to follow this test noting that:

> ...a computer program's ultimate function or purpose is the composite result of interacting subroutines. Since each subroutine is itself a program, this may be said to have its own idea. Whelan's general formulation that a program's overall purpose equates with the program's idea is descriptively inadequate.[19]

However, the "Abstraction-Filtration-Comparison" test adopted in the case of *Computer Associates* was in turn criticised as being of limited use as well as potentially misleading in a later case, *Lotus Development Corp v Borland International.*[20]

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18 Whelan Associates Inc v Jaslow Dental Laboratory Inc (1986) 797 F 2d 1222, 1236 (3rd Circuit).

19 (1993) 23 Intellectual Property Reports 385 at 399. Also see Sterling, "Testing for subsistence and infringement of copyright in computer programs: some US and UK cases" (1995) 11 Computer Law and Security Review 119; Effross, "Assaying Computer Associates v Altai: how will the 'golden nugget' test pan out?" (1993) Rutgers Computer and Technology Law Journal 1.

20 (1995) 49 F 3d 807 (1st Circuit).

THE "LOOK AND FEEL" DOCTRINE

The "look and feel" doctrine evolved from liberal definitions of what constitutes the "expression" of a computer program. The *Whelan* case, which found that the so-called "non-literal aspects" of a computer program such as its structure were protected expression, resulted in cases where infringement of literary work copyright was found without any replication of the underlying code.[21] *Meredith v Harper Row,*[22] which revolved around the structure of a book, was also used as precedent for the proposition that structure was protected expression in *Q-Co Industries v Hoffman.*[23]

This rationale was eventually applied to the distinct category of audiovisual works under the CA 1976. Audiovisual copyright was held to protect screen displays generated by computer programs to the effect that infringement would be found where different programs generated the same screen display.[24] The *Whelan* rationale was eventually applied in the audiovisual work context to protect not just the visual appearance of the screen, but the sequence and general behaviour of generated or interlinked screen displays as well[25]. However, the recent trend is to move away from the more liberal *Whelan*-influenced interpretation.[26]

Under Australian law, the prevailing view is that the idea or ideas of a computer program are expressed within the literal notation of the

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21 SAS Institute Inc v S & H Computer Systems Inc 605 F Supp 816; EF Johnson v Uniden Corp of America (1985) 623 F Supp 1485. In Q-Co Industries v Hoffman (1985) 625 F Supp 608 the Court recognised that the structure of a computer program could be protected expression, but it declined to do so on the basis of the merger doctrine, finding that the structure in that instance was indispensable expression. See generally Hunter, "'Look and feel': copyright protection in the United States and Australia (Parts 1 & 2)" (1992) 3 Australian Intellectual Property Journal 63, 164.

22 378 F Supp 686 (SDNY); affirmed (1974) 500 F 2d 1221 (2d Circuit); opinion after trial (1975) 413 F Supp 385 (SDNY).

23 (1985) 625 F Supp 608 (SDNY). Protection was refused because the Court was of the opinion that the structure was indispensable expression and hence had merged with the idea.

24 Stern Electronics v Kaufman (1982) 669 F 2d 852 (2d Circuit); Kramer Manufacturing Co v Andrews (1986) 783 F 2d 421 (4th Circuit).

25 For example, see Broderbund Software Inc v Unison World Inc (1986) 648 F Supp 1125 (ND Cal).

26 See Lotus Development Corp v Borland International and Effross (1995) 49 F 3d 807 (First Circuit). See also Zadra-Symes, "The retreat from Whelan" (1992) 9 European Intellectual Property Review 327.

underlying code.[27] A functional or visually similar clone will thus not infringe in as much as it is generated by original, independently created code. There is no corresponding category of audiovisual copyright. Its closest equivalent, the artistic work category, has not been greatly relied upon as a means of broadening the copyright protection for programs.[28] Though findings of computer program copyright infringement based on functional similarity have been arrived at in Australian courts, they have without exception been reversed on appeal, or at least re-explained in terms consistent with the conventional idea/expression dichotomy.[29] The "look and feel" doctrine is not therefore a part of current Australian law.

THE CHOICE OF ADAPTED COPYRIGHTS

A detailed history of computer program copyrights, of which the above is only a potted version, would produce a narrative of debatable assumptions, distorted principles, obscured objectives and persistent inconsistencies.[30] The very choice of copyrights as the appropriate method to protect computer programs itself was controversial. Model provisions for a *sui generis* form of protection for computer programs, for example, were formulated by WIPO in 1977.[31] As commented by one writer:

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27 See Fitzsimmons note 13. The case provides an interesting study of the significance of literal aspects of underlying code. A 128 bit code segment itself found not to constitute a computer program, was held to be a substantial part of a computer program, and its indirect replication by means of an oscilloscope, an infringement of copyright.

28 See the Copyright Law Review Committee Final Report ("CLRC Final Report") at 115-116. Compare Hunter, "'Look and feel': copyright protection in the United States and Australia (Parts 1 & 2)" (1992) 3 Australian Intellectual Property Journal 63, 164-166; Mackay & anor; "Are computer screen displays capable of attracting copyright protection?" (1992) 3 Australian Intellectual Property Journal 203.

29 See for example Autodesk v Dyason (No 1) (1992) 22 Intellectual Property Reports 163; (No 2) (1995) 25 Intellectual Property Reports 33; and the notable recent Data Access Corporation v Powerflex cases (1996) 33 Intellectual Property Reports 194 (Federal Court); (1997) 37 Intellecutal Property Reports 490. On the latter case refer to Fitzgerald, "Computer Copyright: Same Words and Functions, Different Source Code?" (1996) 5 Computer and Telecommunications Law Review 202 (comment section); Jew, "Full Bench appeal successful: Powerflex Services Pty Ltd v Data Access Corporation", (June 1997) 33 Computers and Law 1 .

30 See generally Gaze note 6.

31 See Model Provisions on the Protection of Computer Software, International Bureau of WIPO 1978; [1997] Industrial Property: Monthly Review of WIPO 265; Draft Treaty for the Protection of Computer Software International Bureau of WIPO, LPSC/II/3 February 1983.

> The *sui generis* form of the protection chosen indicates that, at this stage, WIPO was of the view that copyright protection was inappropriate to computer software. In the years following the formulation of the Model Provision, however, it became clear that national laws were moving towards a copyright solution for this new kind of subject matter. In some cases, this result was achieved by court decisions that computer software fell already within the description of a literary or an artistic work and was to be protected as such. In others, this was expressly provided for in national legislation. In consequence a number of important Union members now protect software under copyright. The reasons for this change are not readily identifiable, but the following factors appear to have been relevant: (a) there was strong pressure for protection - any protection - that was brought to bear by software makers, (b) despite the useful model provisions provided by WIPO, difficulties were seen in the construction of a new *sui generis* kind of protection, and (c) copyright protection provided a ready pigeon-hole into which software could be slotted with a minimum of trouble...In retrospect these decisions at a national level must be seen as a mistake and present a clear lesson for the future of the Berne Convention...[32]

The Copyright Law Review Committee ("CLRC"), reviewing the CA 1968 in Australia, and examining whether computer programs were truly literary works within the meaning of the Berne Convention,[33] found that some computer programs were true literary works while others were not.[34] In discussing possible alternatives, the CLRC indicated its preference for a copyright influenced *sui generis* form of protection. However, it concluded that in the long run the most appropriate form of protection for computer programs was as a literary work. It provided its reasons in the following terms:

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32 Ricketson S, The Berne Convention for the Protection of Literary and Artistic Works: 1886-1986 (1987, Kluwer, London) 895-900; Stern, "Is the centre beginning to hold in US software copyright law?" (1993) 2 European Intellectual Property Review 39.

33 In order to determine whether they were merely deemed as such, in which case there would be no obligation to protect them as literary works under the Convention.

34 CLRC, 1993 Draft Report on Computer Software Protection(1995, Office of Legal Information and Publishing Attorney-General's Department, Canberra) ("CLRC Draft Report") 43.

> The difficulty about such a course, however, is that it would be likely...to place Australia in breach of its obligations under Berne. Equally importantly it would involve Australia's form of protection being out of step with that conferred in a number of major countries which include those with whom Australia has substantial trading links. There are very strong views held in the United States and the European Community that protection of computer programs as literary works is the appropriate form of protection. It seems to the Committee that this view is entrenched, at least in the medium term, and is unlikely to change. The adoption of the Committee's preferred option would not be welcomed in a number of other countries important to Australia's economic and trading interests and might, however erroneously, cause some to have misgiving about Australia's commitment to the proper protection of developing and it is not particularly substantial, notwithstanding the promise which it has...The Committee would hope that in international discussions...Australia and other countries will, despite the hitherto entrenched views that have so far prevailed, work for the adoption internationally of a more suitable form of protection. That was no doubt the object of those who formulated the Berne Model Provision...[35]

THE ENTRENCHMENT OF COPYRIGHTS AS THE INTERNATIONAL STANDARD

Such questions about the appropriateness of *sui generis* protection were rendered moot by GATT TRIPs. Then came the Agreement on Trade Related Aspects of Intellectual Property Rights which came into effect on 1 January 1995. It was an important outcome of the Uruguay Round of Multilateral Trade Discussions on the Revision of the General Agreement on Tariffs and Trade (GATT) held in 1994. It is currently the most comprehensive multilateral agreement on intellectual property, dealing *inter alia* with copyright, patent, trademark and circuit layout. It may be found at internet site: http://www.wto.org/wto/intellec/l-ipcon.htm.

It is now clear that computer programs, whether in source or object code, must be protected as literary works according to Berne criteria.[36] Therefore, it is highly unlikely that another protection model will be

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35 See CLRC Draft Report 52-53.

36 See TRIPs Article 9.

(expressly, at any rate) adopted in the near future as a country determined to adopt a *sui generis* model would have no choice but to opt out of TRIPs.

It has been suggested that Berne does not mandate the protection of computer programs (at least, no object code) as literary works, and that a *sui generis* approach would not be inconsistent with its requirements.[37] Further, this would have the effect of discouraging a country from contemplating membership in TRIPs even though it may be inclined to contemplate membership in Berne. It is however likely that the not insignificant benefits of TRIPs membership will make this a non-viable option for most countries.[38]

The new WIPO Copyright Treaty ("WCT") states that computer programs are protected as literary works, and that protection applies irrespective of their mode or form of expression.[39] The use of permissive rather than imperative words in the relevant provision, and the clarification of existing rules and objectives stated in the Preamble means that it is a declaratory rather than a mandatory provision.[40] Therefore a party could theoretically be a member of Berne and the WCT but not TRIPs.

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37 See the CLRC Draft Report chapter.4.

38 This action would most likely expose such a country to discrimination in the course of trade with other member states. Member states may suspend concessions to other member states only as a last resort during a dispute: see for example, the Understanding on Rules and Procedures Governing the Settlement of Disputes section.3.7; Annex 2 to the World Trade Agreement:

> The last resort which this Understanding provides to the member invoking the dispute settlement procedures is the possibility of suspending the application of concessions or other obligations under the covered agreements on a discriminatory basis vis-a-vis the other Member, subject to authorisation... .

39 WCT Article 4. See also the statement "Concerning Article 4' of the Agreed Statements Concerning the WIPO Copyright Treaty", WIPO Geneva, Diplomatic Conference on Certain Copyright and Neighbouring Rights Questions which states that the scope of protection for computer programs under WCT Article 4, read with WCT Article 2, is consistent with Article 2 of the Berne Convention and on par with TRIPs.

40 See also note 4:01 of the Chairman's Memorandum on Basic Proposals for the Substantive Provisions of the Treaty on Certain Questions concerning the Protection of Literary and Artistic Works to be considered by the Diplomatic Conference, WIPO Geneva Diplomatic Conference on Certain Copyright and Neighbouring Rights Questions, CRNR/DC/4, August 30 1996 ("Draft WCT Memorandum"), available at internet site: http://www.loc.gov/copyright/ wipo4.html (visited in November 1997).

It is more likely that most countries will become or remain a member of TRIPs, accepting and relying on the sufficiency of the currently existing copyright framework subject to the satisfaction of applicable minimal standards. A more ambitious response would be the revamping of national copyright law (within the confines of Berne and TRIPs) to include criteria such as functionality.[41]

The continued application of copyright to computer programs is now certainly taken for granted in Australia. Recent terms of reference assigned to the CLRC by the Minister for Justice focused on the task of reviewing and simplifying Australian copyright law. The purpose of this reference is:

> to consider whether it is possible to develop Australian copyright legislation which adequately comprehends technological and other developments and the public interest, while at the same time remaining both in accordance with Australia's international obligations and harmonised with other relevant intellectual property regimes and the national legislation of Australia's major copyright-related trading partners.[42]

Rather than re-open the copyright/*sui generis* debate, the CLRC will thus consider issues such as the categories of material that ought to be protected by copyright, how same should be described, which rights should be granted to copyright owners, the CCG recommendations, simplifying the content and structure of the Act.[43] Implicit in these terms of reference is the assumption that copyright principles shall apply to computerised data.

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41 The incorporation of the term "expression" within the definition of computer program in section.10 CA 1968, and the requirement of TRIPs that copyright shall extend to "expressions and not to ideas, procedures, methods of operation or mathematical concepts as such" mean that distinctions between expression and ideas must be maintained: see section 9(2). This does not however necessarily preclude the deliberate inclusion of functional aspects in so much as they can be distinguished from ideas.

42 See CLRC Information for Interested Parties (Review and Simplification Reference) 23 June 1995 at 2.

43 See the Simplification Terms of Reference of the CLRC which is available at internet site: http://www.agps.gov.au/customer/agd/clrc (visited in November 1997). For a suggested simplification of Australian copyright by 'bifurcation', see Christie, "Reconceptualising copyright in the digital era" (1995) 11 European Intellectual Property Review 522, 528.

This matter was settled in the European Community ("EC") in 1991 by the passage of the Computer Program Directive.[44] The recitals of that Directive provide *inter alia*:

> ...the Community's legal framework on the protection of computer programs can accordingly in the first instance be limited to establishing that Member States should accord protection to computer programs under copyright law as literary works and further to establishing who and what should be protected, the exclusive rights on which protected persons should be able to rely in order to authorise or prohibit certain acts and for how long the protection should apply...For the avoidance of doubt it has to be made clear that only the expression of a computer program is protected and that ideas and principles which underlie any element of a program, including those which underlie its interfaces, are not protected by copyright under this Directive...

Thus, Article 1 of the Directive provides that Member States shall protect computer programs by copyright, as literary works within the meaning of the Berne Convention. The more recent Database Directive[45] confirms the protection by copyright certain selections or arrangements of the contents of a database. More controversially, it also creates new *sui generis* rights of extraction and re-utilisation.[46]

AN UNSATISFACTORY SOLUTION

Some of the motivations fuelling attempts to protect computerised data are not easily compatible with fundamental copyright principles. This incompatibility is, however, often obscured by the fact that the purposes of computer program protection are often couched in terms *prima facie* compatible with basic copyright principles. This may conceal the fact that copyright principles have been distorted as a result.

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44 See Council Directive of 14 May 1991 on the legal protection of computer programs (91/250/EEC) (amended by Council Directive 93/93/EEC of 29th October 1993 harmonising the term of protection of copyright and certain related rights). Also see internet site at: http://www2.echo.lu/legal/en/ipr/software/software.html (visited in November 1997).

45 See Directive 96/9/EC of 11 March 1996 which is on the Legal Protection of Databases at internet site: http://www2.echo.lu/legal/en/ipr/database/database.html (visited in November 1997).

46 See Chapter 3, particularly EC Database Directive Article 7.

Computer Program Protection

The "look and feel" doctrine is a case in point. Notwithstanding the difficulty of distinguishing the idea of a computer program from its expression, the protection of the "look and feel" of a computer program in most cases conflicts with the classic idea/expression dichotomy.

Creativity is not protected for its own sake. The results of creative endeavour are distinguished into different forms by law, and these are protected subject to the different policy considerations applicable to each form. A distinction is made at law, for example, between industrially applied inventions and more ephemeral intellectual creations. Both seek to balance the interest of the creator in enjoying the rewards of such creative endeavour, with the public interest of access and use of same. Both employ different techniques to do so.

Functional creations are subject to the rather stringent tests of utility, inventiveness and novelty. These further refine the underlying principle that certain ideas such as laws of nature or mathematical formulae belong to no one, and cannot or should not be monopolised, while the use of others are properly reserved to the use of their inventors for limited period, after which they become public domain. Thus, if the utility, inventiveness and novelty tests are satisfied and the idea is considered to be a manner of new manufacture (the proper subject matter of a patent), the inventor is granted a limited period of time to commercially exploit the invention. In this way, inventors are enabled to reap the fruit of their creative labours without interference from other parties.[47] The patent is thus intended *inter alia* to directly protect or reward the time, money and other effort invested in the creative process. The ideas are made publicly available and can stimulate further other creative activity, but they may not be commercially utilised without licence before the expiry of the protected period. The function of the invention, therefore, plays a significant part in determining what should be protected.

In contrast, copyright adopts the idea/expression dichotomy as a means of determining what should be protected. The conventional subject matter of copyright protection consists of intellectual output with a mainly

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[47] See for example the case of IBM v Commissioner of Patents (1991) 22 Intellectual Property Reports 417 (Federal Court).

expressive function. As with patents, the interests of creators are balanced against those of the public. In so doing, a distinction is drawn between ideas which belong to no one and the expressions of the idea which deserve exclusive protection even if for a limited period. In balancing the competing interests therefore, copyright identifies the expression of the idea rather than the idea itself or its function, as the proper object of protection.[48]

The categorisation of the result of creative activity into intellectual (expressive) and industrial (functional) have until recent years corresponded neatly with what was considered the proper subject matter of copyright and patent protection respectively. However, computer programs transcend this distinction because the data from which they are composed is both expressive and functional. They do not fit neatly into either category. Moreover, the function of a program can be copied without replicating the manner in which the coded data is expressed. The idea/expression filter is the basic technique utilised in common law copyright jurisprudence to identify the proper subject matter of copyright protection and considerations of function are alien to such evaluations. It is certainly a matter for careful consideration as to whether this dichotomy is in fact ill-suited to this context.[49] Such doubts *per se* cannot justify *ad hoc* distortions of fundamental principles.

The Protection of Databases

Proposed extensions to the protection of digital databases by copyright further the blurring of boundaries between ideas and expression. The typographical layout of a published work is protected as a published edition under CA 1968 section 92. Although the protection of investment is

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[48] It has been suggested that a proper object of copyright is the protection of computer programs from piracy (where such piracy has been effected by means that greatly upset the traditional balance of conflicting interests), and that this is a preferable alternative to the wholesale revamping of copyright to encompass technological creativity or functional works: see Karjala "Recent United States and international developments in software protection (Part 1)" (1994) 1 European Intellectual Property Review 13, 14. See also Moignard, "Computer software copyright: protecting ideas or expression?" (November 1996) 7 Australian Intellectual Property Journal 198.

[49] Computerised data crucially differs from the conventional subject matter of copyright (expressive data) in that functionality is one of its significant features. It is arguable that as a result of this fact, distinctions drawn between such data on the basis of expressive features only cannot but be distorted.

perhaps more of an overt objective here than in some other categories,[50] the object can still be said to be the protection of expression, albeit the visual appearance of tangible expression. It was proposed by the CLRC in 1995 that this form of copyright be extended to digital databases.[51]

However, it was unclear as to what was to be regarded the "typographical arrangement" of an electronic database. Was it the fonts and formats of a screen display? Or perhaps the entire screen display or the sequence of screen displays? If such an extension was not to be limited to screen displays which were dependent on the literal working of the underlying code, it could have been utilised as a means of protecting the "look and feel" of the database. If so, functional aspects (such as the behaviour of the program) rather than just expressive aspects (such as the appearance of the presented data) of the underlying computer program would come to be the object of protection. Although it is likely that those proposals may be overtaken by recent international developments,[52] they highlight a possible avenue for the application of the "look and feel" type protection.

A combination of literary works will qualify for protection as a compilation if it evidences a minimal amount of creative effort or efforts. Sheer effort, however extensive, will not invest a prosaic arrangement with the requisite creative quality.[53] Here, the arrangement of underlying works is regarded as the creative expression and in order to be original, it must represent more than an uninspired organisation of distinct elements. In other works, a minimal degree of creativity or skill must be applied to the selection or arrangement of the material.

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50 Because the arrangement and general appearance of published editions were often the result of much creative effort, and such effort often influenced the popularity of marketed versions, it was considered unsatisfactory that such appearance should be vulnerable to unrestricted copying by others who would not have invested the time money or effort necessary to develop an original version. See Ricketson, Intellectual Property: Cases: Materials and Commentary (1994, Butterworths, Sydney) 174-175.

51 CLRC Final Report Recommendation 2.65 at 19, 290-291.

52 Such as the WIPO proposals for a sui generis database protection treaty.

53 In Feist Publications Inc v Rural Telephone Service Co (1991) 111 S Ct 1282; 20 Intellectual Property Reports 129, the US Supreme Court declined to extend copyright protection to a compilation of facts merely because significant effort had been expended in collecting and arranging the facts. The Court found that the selection and arrangement of the data, though painstaking, was not of a sufficiently creative quality to be entitled to protection as an original work.

It has also been suggested that databases insufficiently original to qualify for protection as compilations be protected by an "unfair extraction right".[54] But where organisational efforts do not meet the threshold of originality, it is hard to see what else besides sheer effort or investment, is being protected, and unlike the example of published edition copyright, it is not tied to the visual appearance of strictly expressive data in tangible form. Such a right in effect attempts to protect the function of the database and the investment of the creator, while dispensing with the foundational prerequisites of originality and expressiveness.

Rather than arbitrarily distort fundamental principles, it is submitted that the real objectives behind the protection of computerised data (whether the protection of expression, the protection of appearance, the protection of function, or the protection of investment), must be unambiguously identified and evaluated strictly within the limits of copyright principles. This is not to suggest that the likely finding that some of these objectives may be incompatible with these principles should end the matter. It may be that the time has come for the deliberate, though carefully considered, expansion of copyright principles to protect functionality or sheer effort. Such a finding on the other hand, may be no more than an indication that more attention needs to be paid to alternative remedies such as patents, passing off, trade practices or trade secrecy.[55]

The Protection of Multimedia

The protection of so-called multimedia is another area where the efficiency of copyright protection has been questioned. Although the incorrectness of this term has been pointed out,[56] and its definition and scope are not exact,[57] the term has been used to refer to electronic works that combine

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54 CLRC Final Report Recommendation 2.61 at 18, 278-279.

55 See Samuelson, "Counterpoint: an entirely new legal regime is needed" (February 1995) 12:2 The Computer Lawyer 11 14. See also Capes, "The software copyright super patent" (June 1995) 12:6 The Computer Lawyer 8.

56 See Intellectual Property and the National Information Infrastructure: The Report of the Working Group on Intellectual Property Rights ("WGIP Final Report") 27-29, available at internet site: http://www.iitf.doc.gov (visited November 1997).

57 Multimedia and similar terms "are more used by different sets of people, in different circumstances for designating different kinds of applications based on different technologies and standards": Loewenheim, "Multimedia and the European copyright law" 27 International Review of Industrial Property and Copyright Law 4, 41, quoting the 1991 EC Report on Multimedia. See also Douglas, "Too hot to handle? Copyright

features such as visuals, sound and text. Although in some instances the various features of a multimedia work may each be protected individually under different copyright categories, it has been argued that a multimedia work is more than the sum of its parts, and it has not been conclusively demonstrated that such piecemeal protection would always suffice.[58]

As a result, there have been suggestions in some jurisdictions like Australia where no formal category of audiovisual work exists, that "multimedia work" be included in the other copyright protected categories. The "audiovisual work" category, which is part of US copyright law and some EC law, has been suggested as an option.[59] The CLRC recommended against the creation of a "multimedia work" category, and proposed that "audiovisual work" be considered as a broad alternative to encompass both cinematographic films and multimedia material.[60]

INTERNATIONAL ACKNOWLEDGMENT OF A STRAINED CONCEPT

The Role of Electronic Commerce

Electronic commerce has become a key feature of international and national policy. Its potential to stimulate or retard commercial profitability, create new markets, enable and prevent entry to same, and permit or bar access to creative output, has been considered along with other features as politically significant. The role of intellectual property generally, and copyright especially, as means of exerting control over this phenomenon has thus been the subject of much recent discussion.

In July 1995 for example, the EC released a Green Paper on Copyright and Related Rights in the Information Society. In this paper the international, economic, cultural and social significance of the information society has been remarked upon and various EC initiatives considered. The fact that

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protection of multimedia" (May 1997) 8 Australian Intellectual Property Journal 96; Zaverdinos, "Legal aspects of multi-media - enforcing copyright" (August 1997) 8 Australian Intellectual Property Journal 151; Radcliffe, "Legal issues in new media technologies" 12 (December 1995) The Computer Lawyer 1; CLRC Final Report 279-282.

58 See Zaverdinos ibid at 159-161.

59 Lahore and anor, "The notion of an audiovisual work: international and comparative law" (November 1996) 7 Australian Intellectual Property Journal 208; Loewenheim note 57.

60 See CLRC Final Report 19, 279-282.

the EC had previously stated that the strengthening of copyright was to be a guiding principle in the evaluation of issues raised by the information society was also noted. A series of questions has been posed in an attempt to elicit current thinking and practice regarding digitisation. In November 1996 the EC released a follow-up to the Green Paper, in which the harmonisation, strengthening and maintenance of a high level of copyright protection were espoused as an objective. The clarification and/or development of reproduction rights, communication to the public rights, the protection for the integrity of technical identification and the protection schemes, and distribution rights were identified as priority issues for EC action.[61]

A Working Group on Intellectual Property Rights, formed as part of the Information Policy Committee of the US Information Infrastructure Task Force ("IITF"), released its White Paper on Intellectual Property Rights in September 1995.[62] The Committee made similar recommendations, supporting clarifications on issues like unauthorised transmissions infringing distribution rights, the broad prohibition of the importation, manufacture or distribution of circumventing devices, and the prohibition of the falsification or removal of rights management information.[63] These recommendations foreshadowed rights that were later approved by WIPO[64] and are now subject to ratification by members.

In the Liberal Party's 1996 election policy document entitled "Australia Online", a strategy designed to position the Australian on-line industry as the hub for the Asia-Pacific Region was set out.[65] The reform of copyright and intellectual property was identified as an important part of this strategy, and the introduction of a broad based technology neutral

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61 See EC Commission, Copyright and Related Rights in the Information Society, (Brussels, 19/07/95, COM(95) 382 final). This report is available at internet site: http://www/ispo.cec.be/infosoc/legreg/com95382.doc (visited in November 1997). Also see EC Commission, Follow-Up to the Green Paper on Copyright and Related Rights in the Information Society, (Brussels, 20/11/96, COM(96) 586 final) available at internet site: http://www/isop.cec.be/infosoc/legreg/docs/com96586.html (visited in November 1997).

62 See note 5.

63 See WGIP Final Report at 134-139, 144-148.

64 See for example WCT Articles 6, 8, 11 and 12.

65 See internet site: http://www.liberal.org.au/ARCHIVES/ONLINE/online.htm/ (visited in November 1997).

transmission right[66] promised. The formation of an Information Policy Task Force to report on legal and commercial implications of new communications technologies was promised. A Discussion Paper entitled "Copyright Reform and the Digital Agenda"[67] was jointly released by the Attorney General and Minister for Communication and the Arts in July 1997. In this paper, a legislative scheme consistent with the approach recommended in the EC Green Paper and US White Paper,[68] reflecting the requirements of the recent WIPO Copyright Treaty, was suggested. The paper also sought public comment on whether Australia should implement the recent WIPO Treaties.[69]

The general thrust of the above initiatives has not met with universal approval. The EC Legal Advisory Board expressed its strong concern at what it felt was a biased and unbalanced analysis of issues by the EC in the Green Paper. The US White Paper also has its critics[70] as do various US Bills that have been introduced to facilitate the fulfillment of the Treaties.[71]

THE INTERNATIONAL DIPLOMATIC CONFERENCE

This conference was the culmination of measures taken by WIPO over a period of six years to produce a protocol to the Berne Convention. Two Committees of Government Experts were convened in 1991 to separately consider issues arising under the Berne and Rome Conventions. In 1995 matters relating to the exploitation of rights relevant to the digital

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66 See 21 Australia Online: "We support the introduction of a broad based technology-neutral transmission right designed to ensure that content providers obtain a fair return for their commitment of money, time, and energy": at 14.

67 Available at internet site: http://www.dca.gov.au/pubs/digital.html ("Digital Agenda") (visited in November 1997)

68 In other words, the introduction of a new "transmission rights" and "rights of making available": at 27-41; frameworks for the provision of "adequate technical safeguards" and "adequate legal protection": at 42-44; the creation of RMI removal/falsification crimes or offences: at 42-45.

69 The WIPO Copyright Treaty ("WCT") and WIPO Performances and Phonograms Treaty ("WPPT").

70 See for example the criticisms of the WGIP Draft Report equally applicable in this regard to the WGIP White Paper by Masson, "Fixation on Fixation: Why Imposing Old Law on New Technology Won't Work" which is available at internet site: http://php.indiana.edu/~dmasson/fixation.html (visited in November 1997).

71 For example see the Digital Future Coalition ("DFC") opposing proposed implementing legislation S.1121 and HR 2281, which are available at internet site: http://www.ari.net/dfc/docs/stwip.htm (visited in November 1997).

information society were specifically included in the deliberations. In September 1996 basic proposals for substantive provisions for separate treaties on copyright, phonogram producers and performers, and databases were issued by WIPO to form the basis for negotiations at the Diplomatic Conference called to take place in December 1996.

The proposals for a copyright treaty, and one on phonogram producers and performers, were successfully negotiated resulting respectively in the WIPO Copyright Treaty ("WCT") and the WIPO Performances and Phonograms Treaty ("WPPT").[72] However, the proposal for a Database Treaty[73] was less successful. Though this proposal was strongly supported by the EC and United States, each of which had submitted a draft for *sui generis* protection, there was not enough time in the end to discuss it. An Agreed Statement was consequently approved in which interest was expressed in the further examination of the implications and benefits of international *sui generis* protection of databases, and the importance of the striking of a balance between producers and users in this area emphasised.[74] The convocation of a meeting to decide the schedule for further work on such a treaty was also recommended. Following a convocation early in 1997, an Information Meeting on Intellectual Property in Databases was held in Geneva in September 1997.[75]

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72 For the WCT see internet site at: http://www.wipo.int/eng/diplconf/distrib/94dc.htm (visited in November 1997). Of particular interest are the following: Article 2 (protection of expression and not ideas or procedures), Article 4 (computer programs are protected as literary works), Article 5 (compilations of data are protected), Article 6 (the right of distribution), Article 7 (rental rights) and Article 8 (the right of communication to the public).

73 See the Basic Proposal for the Substantive Provisions of the Treaty on Intellectual Property in Respect of Databases to be Considered by the Diplomatic Conference, WIPO Geneva Diplomatic Conference on Certain Copyright and Neighbouring Rights Questions dated 30 August 1996. This may be found at internet site: http://www.wipo.int/eng/diplconf (visited in November 1997).

74 See the Recommendation Concerning Databases, WIPO Geneva Diplomatic Conference on Certain Copyright and Neighbouring Rights Questions, 23 December 1996 available at internet site: http://www.wipo.int/eng/diplconf/distrib/100dc.htm (visited in November 1997).

75 Refer WIPO Geneva Information Meeting on Intellectual Property in Databases Report (DB/IM/6 dated 19 September 1997) which is available at internet site http://www.wipo.int/eng/meetings/infdat97/db_im_6.htm; also refer the preparatory memorandum, Existing National and Regional Legislation Concerning Intellectual Property in Databases (DB/IM/2 dated 30 June 1997) which is available at internet site: http://www.wipo.int.eng/infdat97/dg_im_2.htm (visited in November 1997).

The proposal for database protection proved very controversial, with some delegations disclaiming the need for such regulation. Fears were also expressed about the threats it could pose to the free and open access of information.[76] Despite the US official stance in support of such regulation, local opposition to such regulation even on the US national level has been fierce.[77] However, the matter is still in the early stages of review. The outcome of the WIPO database information meeting, for example, was a series of recommendations for further investigation and the provision of complied data on the issue to delegates for further discussion.

The Burgeoning Role of Sui Generis Legislation

The *sui generis* protection of databases is already a part of EC law due to the adoption of the EC Directive on Database on 27 March 1996. Member States are obliged to enact related enabling national legislation by 1 January 1998. The objectives of the Directive were stated to be the harmonisation of existing database copyright protection and the creation of new *sui generis* rights of unauthorised extraction and unauthorised re-utilisation of whole or parts of databases.[78] Given the strong support of the EC and the United States, and the present commitment to the development and consideration of such rights expressed in the Agreed Statement of the Diplomatic Conference, it is unlikely that *sui generis* protection in some form will not be adopted at the international level.

In the EC, the producer of a digital databases may now enjoy the following:

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[76] See the observations tabled by the United Nations Educational Scientific and Cultural Organisation ("UNESCO") about the dangers inherent in the granting of extensive prerogatives to database producers in Observations presented by UNESCO, WIPO Geneva, Information Meeting on Intellectual Property in Databases dated September 15 1997 available at internet site: http://www.wipo.int/eng/meetings/infdat97/ (visited in November 1997).

[77] For example see Love J, A Primer on the Proposed WIPO Treaty on Database Extraction Rights That Will Be Considered in December 1996 dated 29 October 1996, which is found at internet site: http://www.essential.org/cpt/ip/cpt-dbcom.html (visited in November 1997) which attaches a letter of opposition addressed to the Secretary of Commerce from the Presidents of the National Academy of Sciences, National Academy of Engineering, and the Institute of Medicine.

[78] See EC Database Directive Part Three, especially Article 7.

- copyrights over the content of the database where such content consists of the producer's original creations, and the content may be regarded as a series of computer programs in digital form;

- copyrights over the selection or arrangement of the content, where same are also the creative output of the producer;[79]

- rights to prevent the extraction of all or part of the contents of the database where substantial investment has been made by the producer in the obtaining, verification or presentation of the contents; and

- rights to prevent the re-utilisation of all or part of the contents where there has been such investment.

This protection, especially of the *sui generis* form, has been described as a cornerstone of the Information Society[80] particularly since multimedia works are increasingly a component of works accessible by means of the Internet/World Wide Web. Also, ordinary users, empowered by the effects of widespread digitisation, are likely to be both producers and consumers of such works. The proportion of on-line traffic and the output of such users are likely to increase exponentially. In time, this may constitute *sui generis* rights as the most commonly invoked form of protection.

SUMMARY ASSESSMENT OF CURRENT TRENDS

Pragmatism and political pressure, sometimes at the expense of fundamental principle, have not been an unusual feature of rights formulation in the digital arena. Although it would be naïve to expect an absence of politicking or lobbying, the paying of lip service to fundamental criteria in the interests of economic expediency is short-sighted and sure to eventually affect the efficiency of copyrights as traditionally conceived. It is still the case that economic rationales should not be determinative. Disregard for the essential limits of copyright will upset a balance that is already unevenly tilted, inclined towards the interests of creators. Disregard

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[79] See also WCT Article 5 regarding compilations.

[80] See for example Kaye, "The proposed EU Directive for the Legal Protection of Databases: a cornerstone of the information society?" (1995) 12 European Intellectual Property Review 583.

for users' interests and the risks to individual freedoms posed by recent broad-based rights are likely to eventually have a detrimental societal effect. The imposition of agendas by the more powerful nations may also have negative effect.[81]

VINDICATION OF INITIAL DOUBTS

The minority, or at any rate, those less politically compelling proponents, who favoured the adoption of *sui generis* rights may well be vindicated in the future. The *sui generis* right of extraction is now part of EC law and very possibly will be added to the list of international minimal protections required of WIPO members. As digital databases are the building blocks of the World Wide Web content of the Internet in one sense, *sui generis* rights of the nature of those provided by the EC Database Direction are beginning to be described as the keystone of the Information Society. Depending on development directions and growth patterns in the use of common on-line facilities, it may be that such rights will in time become the most commonly invoked method of protecting creative digital data. Such *sui generis* rights, in other words, may become the *de facto* standard.

The possible protection of digital databases by an extension of printed edition (typographical) copyrights or the protection by copyright of non-literal aspects, may leave avenues open for "look and feel" type decisions in those jurisdictions where it is not a feature of the national

[81] During GATT TRIPs for example, the US was reported to have evaded discussions of balancing creative incentive with the public interest in free access, choosing instead to bludgeon, by means of bilateral sanctions, those (mainly developing) countries that quibbled at the restrictions on the flow of data the then proposed controls permitted: see for example Power, "Digitisation of serials and publications: the seminal objective of copyright law" (1997) 8 European Intellectual Property Review 444. A further precedent, relevant perhaps in view of pending WIPO discussions on database protection, relates to the way the US 'stimulated' widespread adoption of circuit chip sui generis protection. Although opinion was by no means unanimous that sui generis legislation was called for in the circumstance, the US was very concerned at the huge losses its computer industry had been sustaining from chip piracy. It therefore enacted the Semiconductor Chip Protection Act 1984 with reciprocal and national treatment provisions, and also utilised the powerful threat of trade sanctions under the 1974 Trade Act (US) section 301 ("TA 1974"). It seems section 301 has been a very useful stick: see Fenwick and anor, "Section 301 and the expansion of international intellectual property rights protection" which is available at internet site: http://www.softwareprotection.com/frame/articles/art953.htm (visited in November 1997).

jurisprudence.[82] Time will tell if the unremarked existence of such avenues will eventually erode present objections to the application of such doctrine.

UNDUE STRENGTHENING OF RIGHTS - A DISADVANTAGE?

The increasing scope of authorship or producer rights over digital output will obviously affect the rate and extent to which information is publicly available. The dangers inherent in limited public access may, however, be obscured by seemingly compelling economic arguments. Such arguments are more likely to be championed by those entities in a position to maintain sustained political lobbies for their fulfillment of economic expectations. The risk to creativity such restrictions pose may not be adequately considered.

Proposed prohibitions against the possession of certain equipment[83] could have the inadvertent effect of hampering advances in knowledge by preventing standardisation, which in turn could detrimentally affect the access of great sectors of the public to creative output.

The interpretation of certain aspects of the new rights created in the WCT is a matter for national legislation and case law. Concepts such as that of "the public" incorporated into the right of communication in Article 8, however, may be subject to such broad interpretation that certain users are unnecessarily penalised.[84] The recent *APRA v Telstra* cases[85] in Australian courts illustrate this. Telecommunication providers and internet service

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[82] For example, see the English case of Richardson Computers Ltd v Flanders and anor 26 (1993) Intellectual Property Reports 367.

[83] As is the broad effect of the offence of possessing technology circumventing devices created by WCT Article 11 (Obligations concerning Technological Measures).

[84] According to the notes on the draft version of the right of communication (draft Article 10), the use of the term public is to be as used in the Berne Convention, and is a matter for national law. It is further emphasised there that the article does not attempt to define the nature of extent of liability on a national level and the extent of liability shall be a matter for national law: see Draft WCT Memorandum notes 10:17, 10:21.

[85] See (1993) 26 Federal Court Reports 131; (1995) 31 Intellectual Property Reports 289 (Full Federal Court). Also see Fitzgerald, "Playing music on hold: APRA v Telstra" (1996) 1 Computer and Telecommunications Law Review 21 (comment section); Loughnan, "Copyright provider infringement for user copyright infringement on the internet" (February 1997) 8 Australian Intellectual Property Journal 18. The liability of Telstra in this case was recently upheld in the High Court.

providers alike have consequently lobbied strongly for the inclusion of blanket exemptions to cover them in such circumstances, but this thus far has been without success.[86]

EXPLORATION OF INTERNATIONAL STANDARDS

The scope of the reproduction right was so contentious that a proposed Article 7, to expressly extend the reproduction right to the digital arena,[87] had to be dropped from the draft WCT. An Agreed Statement on the eventually approved WCT clarifying that the protection provided thereunder was on par with the Berne Convention and TRIPs, was unable to achieve consensus, even where references to ephemeral copies were removed from the statement referring to Article 7. Although it was eventually passed by majority vote, the worth of this Agreed Statement (if any) has been questioned.[88]

UNEVEN APPLICATION OF INTERNATIONAL RIGHTS

Membership in Berne (and TRIPs which incorporates Berne) requires the satisfaction of minimal standards. Within those general constraints, however, there is still considerable scope for significant diversity. Countries may not, for example, provide for the following but can still satisfy their obligations under TRIPs:

- the protection of the structure, order or sequence of a computer program;

- the protection of screen displays;

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86 See for instance, WGIP White Paper.71-78; Digital Agenda 36-40. The preference indicated in Digital Agenda is more sympathetic to telecommunications carriers, proposing a solution contrary to APRA v Telstra. See also Draft WCT Memorandum note 10:10 which provides that "what counts is the initial act of making the work available, not the mere provision of server space, communications connections, or facilities for the carriage and routing of signals"; Loughnan, "Service provider liability for user copyright infringement on the internet" (February 1997) 8 Australian Intellectual Property Journal 18.

87 See Draft WCT Memorandum Article 7 and accompanying notes.

88 See Vinje, "The new WIPO Copyright Treaty: a happy result in Geneva" (1997) 5 European Intellectual Property Review 230, 233; Addiss and anor, "WIPO treaties: euphoria should wait" (April 1997) 14:4 The Computer Lawyer 1.

- the protection of non-original compilations;
- the protection of rights of integrity or attribution over a computer program;
- a high standard of originality as a prerequisite;
- similarity of computer programs adjudged by visual appearance;
- the protection of circuit layouts as literary or artistic works; and
- varying degrees of permitted decompilation.[89]

Differences such as these may lead to significant variations in the subject matter, or in the breadth of protection available for the same computerised data in different countries. Although the WCT has lessened the potential for this somewhat, the protection of digital works may thus continue to develop in significantly different ways. Therefore, despite the observance of minimum standards, national copyright law in practice may provide less extensive protection over aspects of digital works than is considered optimal in other countries.[90]

PRACTICAL WORTH OF COPYRIGHTS

Technology has made the infringement of copyright much easier,[91] and rendered the possibility of international infringements of more immediate concern to the ordinary individual. Given that publication other than under the auspices of commercial publishers has become a ready alternative, the risk of international infringements has also become the concern of ordinary

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89 Yet Japan was placed on the TA 1974 "priority watch list" when it appeared that the development of Japanese law was going to permit the decompilation of computer programs.

90 In addition to the new WCT however, domestic legislation such as the TA 1974 and bilateral agreements are likely to continue to play a role in the raising (or maintaining) of computer program protection standards.

91 Immense volumes of creative works expressed in the form of text, pictures or sound, can be reduced to digital information and hence be conveniently stored in relatively small spaces, easily manipulated or replicated, and transmitted to remote locations with a minimum of fuss.

creator/copyright owners. Works created or stored in digital form, for example, may be easily plagiarised or dispersed without authority to a wide international audience by means of the Internet. Such infringements may not, however, come to the attention of the copyright owner, or even where they do, the infringer may have acted remotely from another country and not be within convenient reach.

Although in many cases the national treatment rules will apply, the costs of instituting infringement proceedings in a foreign court are also not insubstantial and are likely to be a disincentive. The enforcement of infringed rights may thus be an impractical remedy for many copyright owners.

There is also the fact that it is not currently possible to monitor the many uses and transfers of computerised data. This means that in many cases it will not be possible to determine that an infringement has in fact taken place. Putting aside adages such as "what you don't know can't hurt you", questions must surely be asked about the practical worth of rights which exist in theory but will in many cases be difficult to enforce. Although it is increasingly being suggested that the technology enabling these kinds of infringements will permit the restraint of infringements, the extent to which individual rights will be encroached upon in the interest of preventing infringements must be kept in check.[92]

RISK OF INCREMENTAL TRANSFORMATION OF ESSENTIAL FEATURES

The categorisation of computerised data into distinct groups for regulatory purposes has been pragmatic rather than inherently self-evident. However, copyright has been the main means by which creative output in digital form has been protected. In seeking to protect such digital data by means of

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[92] International identification schemes have been suggested as a means of monitoring the use of digitalised data. Following symposia held in Cambridge, Massachusetts and the Louvre, Paris, various working groups were convened by WIPO to consider the establishment of compulsory international numbering systems for different types of works. Similar investigations are being carried out under the auspices of the EC ESPRIT Project. Other suggestions have included the establishment of optional deposit systems, the increased use of national software registers, and routine use of technology such as Fingerprinted Bitmapped Identification (FBI) in the creation of documents; for example see Bond, "Public registers for software programs" (1995) 11 Computer Law and Security Review 130.

basic copyright principles, in the past matters such as the idea/expression dichotomy have been distorted. In addition, the distinction between what are the proper and improper objects of copyright protection have been obscured, particularly by efforts to protect the appearance, structure or arrangement of digital data.

Although there is no doubt that digital output is vulnerable to piracy, and that serious interests are prejudiced by such piracy, some interests raised by such piracy fall outside the proper sphere of copyright. The fact that the EC Database Directive and current WIPO proposals utilise *sui generis* protection is perhaps a more than implicit acknowledgment of this fact. The latter initiatives may arguably be said to represent an unbalanced bias. The protection they provide certainly places the consumer of digital output at a distinct disadvantage. However, because this protection is *sui generis*, it is possible that arguments for a better balancing of rights may be more readily disregarded on the basis that *sui generis* rights are unencumbered by the policy considerations of traditional copyrights.

Jurisprudential reasoning viewing copyrights as fundamental human rights may also be implicated in the tendency to treat (authors') effort and investment as primary considerations rather than one side of a balancing equation. There has recently been a trend in some common law jurisdictions towards the express recognition of the moral rights of authors in limited circumstances.[93] It is notable also that the EC Database Directive creating *sui generis* rights, which is perhaps less remarkable from the perspective of civil law countries than common law countries, is exerting a strong influence on international discussions on database protection. The differences in the two systemic conceptions of copyright ought not to be overlooked in the evaluation of *sui generis* rights such as these. They cannot but negatively affect access to information, generally speaking, and as such the right should be taken into account, whether expressly articulated or not.[94]

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93 For example see Schedule 1 (moral rights of authors of works and directors and producers of films) to the Copyright Amendment Bill introduced in the Australian Parliament in June 1997.

94 This generally speaking is regarded as a human right whch is equal to the author's rights: see for example the United Nations Universal Declaration of Human Rights which lists inter alia the freedom to seek, receive, and impart information and ideas through any media and regardless of frontiers (Article 19), the sharing in scientific advancement and its benefits (Article 27(1)), free participation as fundamental rights,

The effect of such departures from orthodoxy, permitting perhaps the subtle encroachment of extraneous considerations into copyright considerations, may result in an incremental but eventually radical restriction of public access to data. This would bring copyright full circle back to its earliest beginnings when the main objective was the maintenance of public ignorance by stifling public comment through hindering the circulation of writings. Whether such a retrogression can be justified on the same or other grounds, a question commentators of all persuasions must consider carefully is whether this should occur in the covert and ill-considered manner permitted by current trends.

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as well as the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which a person is the author (Article 27(2)).