

8

Copyright Law and IT

Intellectual-property rights are legal means of protecting and balancing the interests of an individual against those of the public. This is done by means of disclosure, dissemination, alteration, use and abuse of ideas, with an exclusive right to control and profit from the invention and/or authorship of such intangible goods, services and ideas.

Copyright is the exclusive right to duplicate and distribute created works. The four cornerstones of modern copyright law are found in the English Statute of Anne of 1709.¹ These are natural law (copyright works are fruits of the mind, therefore the author should have the right to control his work), a return on labour and skill (it is just that authors be remunerated for the exploitation of their works), an incentive to create (if authors can profit from their works they will produce creative and original works), and the advancement of society (society is advanced by the widest possible dissemination of the works to the public).² These four principles are cumulative and interdependent and underpin the justification of copyright law in all countries. In the civil-law tradition, the natural-law principle is paramount; in countries with a common-law tradition, such as South Africa, the economic and social arguments are the most forceful.³

Traditionally, the limits and exceptions to the exclusive rights of copyright owners have ensured a proper balance between the private interests of the copyright owner and the public interest. Private interests include the economic and moral rights of the author. Public interests protect freedom of speech, news, reporting, academic research and criticism, and quoting from the protected work.⁴

8.1 A new copyright perspective for digital content

Technology is changing the way that copyright goods can be illegally copied and distributed. In the electronic environment, it is now a relatively simple matter to infringe intellectual-property rights. Monitoring copyright violations, on the other hand, is far from simple, particularly when content exists in electronic, not physical, form

¹ The Copyright Act 1709 8 Anne, c. 19.

² Davies *Copyright and the Public Interest* 13–16.

³ Ibid. 17.

⁴ Wiese "Anti-circumvention laws: A 'circumvention' of the copyright balance in the digital age?" 2002 (4) *Communications Law* 146.

and can be distributed instantaneously, cheaply and easily in the form of digital copies, the quality of which is indistinguishable from that of the original.⁵ Not least of the difficulties this creates for copyright owners and law-enforcement agencies is that there is no longer any clear distinction between copying and distribution.

Technology and copyright law are entwined. Historically, copyright law evolved in response to the growth of printing technology. Almost all substantial revisions of copyright law have been impelled by technological innovation.⁶ Examples of developments that prompted revisions of copyright law include photography, computing, cable transmission and broadcasting.⁷ Despite the ability of copyright law to adapt to technological developments, digital technology has created new challenges and difficulties.

From a legal perspective, "digital" is different. This quickly becomes plain when we consider the impact of digital technology on copyright law. Traditionally, copyright works are classified into different categories – for example, literary works, artistic works, computer programs, and so on. In each category, works are afforded certain exclusive rights – in the case of literary works, for example, the right to publish, to make reproductions or adaptations, and so on. Copyright law has no experience of dealing with mixtures of different kinds of work or with "multimedia". Digitisation of information – reducing information to binary bits of 0s and 1s, and the development of common technology standards for text, sound and video, such as html, MP3 and MPEG, enable digital content to be shared – almost instantaneously – by millions of users.⁸ The equivalence of works in digitised form makes it easy to combine what had previously been thought of as separate categories of work, and these new combined works resist easy classification.⁹

Accordingly, the digitisation of works has the following consequences:

- ☐ the creation of a homogeneous medium of storing and transmitting works;
- ☐ the merging of previously distinct classes of work into multimedia products;
- ☐ difficulty in classifying multimedia products;
- ☐ difficulty in determining exclusive rights for each category of work when, say, a previously distinct musical work, a computer program and a literary work are combined in a multimedia work; and
- ☐ alteration of traditional use of copyright works by the process of digitisation and networking.

The fact that all works in digital form have uniform characteristics makes it very difficult to protect the copyright subsisting in such works. Digitisation and networking fundamentally alter the traditional conventions for using existing material which is subject to copyright.¹⁰ Works in this new digitised form can be copied, distributed, transmitted, manipulated, edited and stored with ease.

⁵ Craig and Graham "Rights management in the digital world" 2003 *Computer Law and Security Report* 357.
⁶ Lim *Cyberspace Law Commentaries and Materials* 433–434.

⁷ Ibid. 434.

⁸ Ibid. 356.

⁹ Samuelson "Digital media and the changing face of intellectual property law" 1990 *Rutgers Computer and Technology LJ* 333.

¹⁰ Dreier "Unsolved copyright issues in digital and network environment" 1995 *Copyright World* 36.

he form of digital copy-
original.⁵ Not least of
ement agencies is that
istribution.

opyright law evolved in
ubstantial revisions of
ion.⁶ Examples of de-
le photography, com-
ity of copyright law to
reated new challenges

ecomes plain when we
raditionally, copyright
literary works, artistic
s are afforded certain
e right to publish, to
has no experience of
media". Digitisation of
and the development
uch as html, MP3 and
eously – by millions of
' to combine what had
l these new combined

quences:

smitting works;
media products;

of work when, say, a
d a literary work are

ess of digitisation and

teristics makes it very
tisation and network-
sisting material which
e copied, distributed,

Law and Security Report 357.

law" 1990 Rutgers Computer

35 Copyright World 36.

At international level, article 9 of the Berne Convention for the Protection of Literary and Artistic Works of 1886 states that "authors of literary and artistic works . . . have the exclusive right of authorizing the reproduction of these works, in any manner or form".¹¹

Permanent electronic storage of a work is a restricted act. The Information Infrastructure Task Force of the United States noted in its report¹² that

[i]n each of the instances set out below, one or more copies is made.

- When a work is placed into a computer, whether on a disk, diskette, ROM or other storage device or in RAM for more than a very brief period, a copy is made.
- When a printed work is 'scanned' into a digital file, a copy – the digital file itself – is made.
- When other works – including photographs, motion pictures or sound recordings – are digitalized, copies are made.
- Whenever a digitalized file is 'uploaded' from a user's computer to a bulletin board system (BBS) or other server, a copy is made.
- Whenever a digitalized file is 'downloaded' from a BBS or other server, a copy is made.
- When a file is transferred from one computer network user to another, multiple copies generally are made.¹³

When digitised works are stored or made available for access, or transmitted without authorisation, it is difficult to establish copyright infringement because of the difficulty in establishing the identity of the person who transmitted, stored or made available the infringing copy of a work – was it the host, the access provider or a remote user? The removal of rights-management information also makes it difficult to prove copyright ownership.¹⁴

It has become relatively easy to infringe intellectual-property rights through the use of electronic technologies. There is therefore an urgent need to formulate a system of laws that define and protect intellectual property, as a response to technological change, particularly to emerging circumvention technologies, or technologies that evade preventive security measures, that constantly challenge copyright in works in digital form. In this context, it is increasingly challenging to ensure that intellectual-property and related rights are applied to the electronic environment in a manner that promotes e-commerce. This is of particular importance to South African intellectual-property law, which is not yet fully equipped to deal with the implications of the Internet, convergence, multimedia, digital technology and, hence, e-commerce.¹⁵

¹¹ Art. 9(1) of the Agreement on Trade-Related Aspects of Intellectual Property Rights (the TRIPS Agreement) requires members of the World Trade Organisation to comply with the substantive provisions (except art. 6bis on moral rights) of the Berne Convention. As Annex 1C of the Marrakesh Agreement Establishing the World Trade Organisation, the TRIPS Agreement binds all members of the World Trade Organisation (art. 11.2 of the Marrakesh Agreement). The TRIPS Agreement was concluded on 15 April 1994 and entered into force on 1 January 1995.

¹² Working Group on Intellectual Property Rights "Intellectual property and the national information infrastructure" www.uspto.gov/go/com/doc/ipnii/lawcopy.pdf (accessed July 2008).

¹³ Ibid. 65–66.

¹⁴ See the discussion of enforcement and rights management under para. 8.4.3.2 below.

¹⁵ See Department of Communications "Green paper on electronic commerce for South Africa" 56–57.

Protection of copyright and related rights extends to eligible digital content regardless of the form in which it exists or the medium in which it is expressed. Information protected by copyright and related rights in analogue form continues to be protected when it is transformed into digital form. For example, an e-mail message or an online document is protected by copyright in the same manner as a hand-written, typed, or printed letter. Similarly, a book or magazine article is protected by copyright regardless of whether the words are recorded in a magnetic form on a computer disk, in an optical form on a CD-ROM, or printed on a piece of paper.

The interface between copyright law and information technology will be discussed with reference to the copyright protection of computer programs, after which attention will be devoted to specific forms of copyright infringement on the Internet, reproduction and communication to the public. Thereafter liability for copyright infringement and the limitation of such liability will be discussed. Lastly, the copyright protection of electronic databases and the *sui generis* form of database protection will be discussed.

8.2 Copyright protection of computer programs

The copyright owner of a computer program has *inter alia* the right to reproduce and to make adaptations of the program. South African courts have hesitantly embraced the protection of the "look and feel" of computer programs.¹⁶

South African case-law on the scope of copyright protection for computer programs is scant. Our courts regard British case-law as of persuasive value when they face copyright-law issues. In the United Kingdom an adapted "abstraction-filtration-comparison" test¹⁷ was adopted; the adapted test is based on a comparison of the operation of the two programs and not the underlying code itself.¹⁸ In *Icabs Computer Ltd v Barclays Mercantile Highland Finance Ltd*¹⁹ the court noted that "sufficiently detailed" ideas may be copyrightable.

8.2.1 Copyright protection of computer programs in the United States

8.2.1.1 Introduction

Computer programs are eligible for copyright protection in terms of the Copyright Act²⁰ of the United States if they are fixed in a tangible medium of expression. Although court decisions have firmly established copyright protection of the "literal" elements of computer programs,²¹ the scope of copyright protection for computer programs is highly controversial and complicated. The degree of substantial similarity

16 See *Pastel Software (Pty) Ltd v Pink Software (Pty) Ltd* 399 JOC (T) (case no. 1296/91, 25 July 1991).

17 Devised in *Computer Associates International v Altai* 982 F 2d 693 (2d Cir. 1992).

18 See *John Richardson Computers Ltd v Flanders* [1993] FSR 497.

19 [1994] FSR 275.

20 The Copyright Act of 1976, chapters 1-8 and 10-12 of 17 USC, was enacted on 19 October 1976 as Pub L No. 94-553 90 Stat 2541 and is available at www.copyright.gov/title17 (accessed July 2008).

21 See *Apple Computer Inc v Franklin Computer Corporation* 714 F 2d 1240 (3rd Cir 1983) (source code and object code); *Apple Computer Inc v Formula International Inc* 562 F Supp 773 (CD Cal 1983) and *NEC Corp v Intel Corp* 645 F Supp 590 (ND Cal 1986) (operating-system programs and computer programs embedded in ROM chips).

necessary to establish infringement²² and the scope of protection of "non-literal" elements are contrived. The courts face a dilemma in applying copyright law to computer programs: they must either limit copyright protection to the literal copying, reproduction and adaptation of a computer program or extend it to the logic, design and structure of the program. If the first approach is followed, pirates get the opportunity to appropriate and clone the programs and escape liability, whereas following the second approach may result in the granting of a monopoly on ideas, akin to patent protection.²³

The strongest defence that can be raised in a copyright-infringement action is the idea-expression defence contained in section 102(b) of the Act.²⁴ It provides that in no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle or discovery, regardless of the form in which it is described, explained, illustrated or embodied in such work. The essentially utilitarian nature of computer programs complicates the task of drawing a line between idea and expression.

The doctrinal starting point in analysis of utilitarian works is the seminal decision of the United States Supreme Court in *Baker v Selden*.²⁵ In this case it was held that copyright vesting in a book describing a bookkeeping system does not extend to the use of the system itself. Courts have also held that this decision also applies to related principles; hence, because ideas are not copyrightable all expressions incidental to an idea "merge" with the idea and are therefore not copyrightable.²⁶ Thus, those

22 See, in general, *Williams Electronics v Artic International Inc* 685 F 2d 870 (1982) 872, 876; *Tandy Corp v Personal Micro Comp Inc* 524 F Supp 171 (1981) 173–175; Schumann "Copyrightability of computer programs and the scope of their protection under the *ITC Apple* case and the *Whelan* case – Part II" 1988 *Computer Law and Practice* 141; *EF Johnson Co v Uniden Corporation of America* 623 F Supp 1485 (D Minn 1985); *Hubco Data Products Corporation v Management Assistance Inc* USPQ 450 (D Idaho 1983); *MiTek Holdings Inc v Arce Engineering Co* 89 F 3d 1548 (11th Cir 1996); Gesmer "Developments in the law of computer software copyright infringement" 1986 *Jurimetrics Journal* 228; Toole "Even if a stranger could create such a work . . ." Software, piracy and implications of the implied covenant of good faith: Has the SAS court gone too far?" 1989 *Computer LJ* 161; *SAS Institute v S & H Computer Systems Inc* 605 F Supp 816 (MD Tenn 1985); *Williams v Arndt* 626 F Supp 571 (D Mass 1985); Walter "Defining the scope of software copyright protection for maximum public benefit" 1988 *Rutgers Computer and Technology LJ* 121–124; Friedman "Copyrighting machine language computer software – the case against" 1989 *Computer LJ* 10; Nimmer et al. "A structured approach to analyzing the substantial similarity of computer software in copyright infringement cases" 1988 *Arizona State LJ* 650; Radcliffe "Recent US developments in copyright law related to computer software" 1986 *European Intellectual Property LR* 42; Spivak "Does form follow function? The idea/expression dichotomy in copyright protection of computer software" 1988 *UCLA LR* 738.

23 Dworkin and Taylor *Blackstone's Guide to the Copyright, Designs and Patents Act* 183.

24 17 USC § 102(b).

25 101 US (11 OTTO) 99 (1878).

26 In *Synercom Technology Inc v University Computing Co* 462 F Supp 1003 (ND Tex 1978) the alleged infringement involved a "preprocessor program" that converted inputs designed for the plaintiff's program into the input format of the defendant's program. The preprocessor program was derived directly from the plaintiff's copyrighted form and manual. The court held that the plaintiff's input formats were only copyrightable if the ideas they expressed were separable from their expression (at 1012). It ruled that the writing of a computer program from a general description of the problem (as contained in the manual) requires independent thought and creativity and can in no way be said to be merely a copy or version of the problem stated. The court compared the factual situation to the creation of the well-known "H" gear-shift pattern. Although many patterns could perform the same

continued

elements of a computer program that are necessarily incidental to its function are similarly unprotectable.²⁷

In *Mazer v Steyn*²⁸ it was held that *Baker v Selden*²⁹ was authority for the principle that the copying of an idea without the copying of the expression of that idea does not constitute copyright infringement. Courts have long struggled with the problem of separating idea from expression and now generally agree that no precise dividing line exists.³⁰ In general, it can be said that the expression of an idea is copyrightable, but that the idea itself falls within the public domain. Hand J formulated the "levels of abstraction test" in *Nichols v Universal Pictures Corp.*³¹ progressing from the expression (less abstract) to the idea (more abstract). He commented that "upon any work . . . a great number of patterns of increasing generality will fit equally well, as more and more of the incident is left out".³² According to Hand J the most abstract level consists of a very general statement of what the work is about; somewhere between that level and the exact expression is a point in the series of abstractions beyond which the idea is no longer protected.³³ The precise location of this boundary is elusive: "nobody has ever been able to fix that boundary, and nobody ever can".³⁴

Although the abstractions test was created for literary works, it is readily adaptable to analysing computer software. Computer programmers' authorship is constrained by the limitations of the machines on which their programs are to run and by the formalities of the programming language they have chosen. These limitations, combined with the complex tasks of data management and control flow inherent in computer programming, have led most programmers to adopt a "structured" or "top-down" approach to programming. A programmer starts with very general ideas of what the program is to accomplish, and moves in steps toward the ultimate goal of producing specific code that can operate the computer correctly. Computer programs

task, after a manufacturer had chosen the "H" pattern, others could copy it freely. The fact that the defendant's program contained a "mirror image" of the plaintiff's form was merely an incidental result of the borrowing of the unprotected idea (namely, the sequencing of data inputs for statistical analysis) and did not constitute copyright infringement (at 1012-1013); Scott "The 'look and feel' controversy" 1989 *Trail* 49. In *Apple Computer Inc v Franklin Computer Corporation* 714 F 2d 1240 (3rd Cir 1983) it was stated that if there are other ways of writing a computer program that performs the same function as the program in question, then the latter program is copyrightable. The court further stated that it can be said that the idea and expression have merged when there are no or few other ways of expressing that particular idea (at 1253).

²⁷ See Groves *Sourcebook on Intellectual Property Law* 301.

²⁸ 347 US 201 (1954).

²⁹ 101 US (11 OTTO) 99 (1878).

³⁰ Nimmer et al. "A structured approach to analyzing the substantial similarity of computer software" 1988 *Arizona State LJ* 629; Schumann "Copyrightability of computer programs" 1988 *Computer Law and Practice* 141; Walter "Defining the scope of software copyright protection" 1988 *Rutgers Computer and Technology LJ* 121-124; Friedman "Copyrighting machine language computer software" 1989 *Computer LJ* 10.

³¹ 45 F 2d 119 (2d Cir 1930).

³² *Ibid.* 121.

³³ Burgunder and Heckman "An emerging theory of computer software genericism" 1988 *High Technology LJ* 236; Friedman "Copyrighting machine language computer software" 1989 *Computer LJ* 7-9.

³⁴ *Nichols v Universal Pictures Corp* 45 F 2d 119 (2d Cir 1930) 121.

therefore contain several levels of abstraction, namely the code, the structure of the computer program and the input and output formats.³⁵

Courts faced with actions for infringement of copyright in computer programs have attempted to apply the analytical foundation of the idea-expression dichotomy, without authoritative guidance on how to separate idea from expression. Furthermore, courts had no guidance on the principles to be applied in distinguishing protectable expression from expression which must necessarily be used as ancillary to the work's underlying concept.

8.2.1.2 The *Whelan* test: Structure, sequence and organisation

In *Whelan Associates Inc v Jaslow Dental Laboratory Inc*³⁶ a thoughtful attempt was made to address the issues outlined in paragraph 8.2.1.1 above. The defendant had assisted the plaintiff in writing a computer program designed to administer dental laboratories and subsequently wrote a functionally equivalent program for itself. The file structure, screen outputs and sub-routines relating to invoicing, accounts, end-of-day and end-of-month procedures of the two computer programs were the same, although many of the similarities were to be expected of computer programs designed for the same purpose.

The court rejected the defendant's contention that it had only copied the plaintiff's idea for the computer program. The court distinguished thus between protectable expressions and unprotectable ideas: "The purpose or function of a utilitarian work would be the work's idea and everything that is not necessary to that purpose or function would be part of the expression of the idea".³⁷ It held that when there are various means of achieving a purpose the particular method used is part of the expression of the idea and not the idea itself. On the other hand, if there is only one method of achieving a specific purpose, the copying of that method or set of steps is permissible because it is part of the function or idea. The court noted that the comparison of screen outputs could be useful as indirect and inferential evidence establishing the copying of the underlying program³⁸ and went on to say that "Copyright protection of computer programs may extend beyond the program's literal code to their structure, sequence and organization".³⁹

The *Whelan* decision was followed by other courts.⁴⁰ In *Broderbund Software Inc v Unison World Inc*,⁴¹ in which the alleged copying of a computer program designed to

³⁵ See Walter "Defining the scope of software copyright protection" 1988 *Rutgers Computer and Technology LJ* 124; Gordon *Computer Software: Contracting for Development and Distribution* 127; Goldhammer "Will courts preserve competition?" 1989 *The Legal Intelligencer* 1-2; Burgunder and Heckman "An emerging theory of computer software genericism" 1988 *High Technology Law* 237.

³⁶ 797 F 2d 1222 (3rd Cir 1986).

³⁷ *Ibid.* 1236.

³⁸ *Ibid.* 1224. See also *Manufacturers Technologies Inc v Cams Inc* 131. 706 F Supp 984 (D Conn 1989) 992.

³⁹ *Ibid.* 1222.

⁴⁰ See *Bull HN Information Systems Inc v American Express Bank Ltd* 1990 *Copyright Law Dec* (CCH) P 26, 555 at 23,278 (SDNY 1990) (as quoted in *Groves Sourcebook on Intellectual Property Law* 301); *Dynamic Solutions Inc v Planning & Control Inc* 1987 *Copyright Law Dec* (CCH) P 26, 062 at 20,912 (SDNY 1987) (as quoted in *Groves Sourcebook on Intellectual Property Law* 301). Other courts have rejected the *Whelan* dictum - see *Plains Colton Co-op v Goodpasture Computer Service Inc* 807 F 2d 1256 and *Synercom Technology Inc v University Computing Co* 462 F Supp 1003 (ND Tex 1978) 1014.

⁴¹ F Supp 1127 (ND Cal 1986).

make banners, greeting cards, signs and posters was at issue, the court relied on the *Whelan* case and stated that the present court also stands for the proposition that copyright protection extends beyond the literal code to the overall structure of the program, including its audio-visual display.⁴²

The *Broderbund* court thus held that copyright infringement had taken place and that the defendant had appropriated the "total concept and feel" of the plaintiff's program. It reasoned that "A rival software publisher is completely free to market a program with the same underlying idea, but it must express the idea through a substantially different structure".⁴³

The court's failure to recognise that a computer program and its screen output are separate entities for the purpose of copyright protection is based on a misinterpretation of the *Whelan* dictum and goes against all relevant authority.⁴⁴ Menu screens have little to do with the underlying program,⁴⁵ and the court erred in extending copyright protection to menu screens as part of the overall sequence and structure of the computer program.⁴⁶

In *Digital Communications Assn Inc v Softclone Distributing Corp*⁴⁷ the defendant, who was in the business of creating clone software, had written a program that contained no infringing code but worked exactly like the program it was designed to emulate. With regard to the virtually identical status-screen display, the court rejected the *Broderbund* ruling and held that the copyright in a computer program does not extend to its screen display. The court held that the screen display is independently copyrightable⁴⁸ and that the program display is fixed in the code.⁴⁹ It said:

⁴² Ibid. 1133.

⁴³ Ibid.

⁴⁴ See *Midway Manufacturing Co v Artic International Inc* 704 F 2d 1009 (7th Cir 1983) cert. den. 104 S Ct 90 (1983); *Williams Electronics v Artic International Inc* 685 F 2d 870 (1982); Middleton "A thousand clones: The scope of copyright protection in the 'look and feel' of computer programs - *Digital Communications Associates, Inc. v Softclone Distributing Corp.*, 659 F Supp 449 (ND Ga. 1987)" 1988 *Washington LR* 201 n. 52; MacKay "Broderbund Software Inc. v Unison World, Inc.: 'Look and feel' copyright protection for the display screens of an application microcomputer program" 1987 *Rutgers Computer and Technology LJ* 129.

⁴⁵ Friedman "Copyrighting machine language computer software" 1989 *Computer LJ* 12; Spivak "Does form follow function?" 1988 *UCLA LR* 758.

⁴⁶ Mandel "Digital Communications Associates, Inc. v Softclone Distributing Corporation: Copyright protection for the status screen of a computer program" 1989 *Rutgers Computer and Technology LJ* 175, Tito "Broderbund Software, Inc. v. Unison World, Inc. 648 F Supp 1127 (1986)" 1987 *Computer LJ* 538-542 and Nimmer et al. "A structured approach to analyzing the substantial similarity of computer software" 1988 *Arizona LJ* 623-633 are of the opinion that the phrase "total concept and feel" can be applied to a greeting card, game or anthropomorphic fantasy, but is totally inappropriate when applied in evaluating the substantial similarity between the codes of the two computer programs. The *Whelan* court did not include the screen outputs of a computer program as part of the overall structure of a program, but merely discussed the relevance of the similarity between the two screen displays in the context of the substantial similarity of the two computer programs (see Mandel op. cit. 182).

⁴⁷ 659 F Supp 449 (ND Ga 1987).

⁴⁸ Ibid. 455.

⁴⁹ Ibid. 456. *Contra M Kramer Manufacturing Co v Andrews* 783 F 2d (4th Cir 1986) 421 in which the court held that, because the audio-visual display can be reproduced from the computer program, it must follow that the display is a copy of the program.

issue, the court relied on the
ids for the proposition that
the overall structure of the

ement had taken place and
; and feel" of the plaintiff's
completely free to market a
ress the idea through a sub-

m and its screen output are
is based on a misinterpret-
t authority.⁴⁴ Menu screens
court erred in extending
all sequence and structure

; Corp⁴⁷ the defendant, who
a program that contained
t was designed to emulate.
ay, the court rejected the
ter program does not ex-
1 display is independently
code.⁴⁹ It said:

7th Cir 1983) cert. den. 104 S Ct
(1982); Middleton "A thousand
of computer programs - *Digital*
upp 449 (ND Ga. 1987)" 1988
World, Inc.: 'Look and feel' copy-
mputer program" 1987 *Rulgers*

9 *Computer LJ* 12; Spivak "Does

Corporation: Copyright protec-
uter and Technology *LJ* 175. Tito
36)" 1987 *Computer LJ* 538-542
ial similarity of computer soft-
otal concept and feel" can be
is totally inappropriate when
the two computer programs.
program as part of the overall
ilarity between the two screen
ter programs (see Mandel op.

1 Cir 1986) 421 in which the
om the computer program, it

The use of a screen to reflect the status of the program is an 'idea', the use of a command driven program is an 'idea', and the typing of two symbols to activate a specific command is an 'idea'. All of these elements relate to how the computer program receives commands or instructions from the user and how operationally the computer program reflects the results of those commands. Certain aspects of the status screen, however, are unrelated to how the computer program operates and are 'expressions' . . . The modes of expression chosen by plaintiff for its status screen are clearly not necessary to the idea of the status screen. Therefore, the plaintiff's mode of expression of the status screen does not merge with the idea of the status screen.⁵⁰

The court rejected the argument that the display is an audio-visual work, ruling that, as the display is not a "series of related images", it did not meet the criteria for an audio-visual work.⁵¹ The court held that the screen display is a compilation in that it is an assembly of data arranged in an original manner.⁵²

Finally, the court held that no copyright infringement of the computer program had taken place, because replication of the screen cannot be brought about by copying the program code, but that copyright infringement in relation to the status screen had taken place.⁵³ Other courts have confirmed that protection of a computer program may extend beyond its literal code to the program's structure, sequence and organisation.⁵⁴

8.2.1.3 The three-pronged test

In *Lotus Development Corp v Paperback Software International*,⁵⁵ the copyrightability of the user interface of the Lotus 1-2-3 spreadsheet, namely the menus (and their structure and organisation), the long prompts, the screens on which they appear, the function-key assignments and the macro commands and language, was in issue.

Dealing with what it called "The Idea-Expression Riddle"⁵⁶ the court stated that the concepts of "originality", "functionality", "obviousness" and "merger" are important to understanding the legally significant differences between an idea, non-copyrightable expressions of the idea and a copyrightable expression.⁵⁷ The court held that the expression of an idea is copyrightable only if it originated with the author; but if such an expression does no more than embody elements of the idea that are purely functional, it is not copyrightable.⁵⁸ When a particular expression goes no further than the obvious, or is one of a limited number of ways to express the idea, it is inseparable from the idea itself and hence uncopyrightable.

The court formulated a three-pronged test for copyrightability. First, to distinguish between the idea and its expression, a court must identify and define the idea of the work in a way that places it somewhere on the linear scale of abstraction that runs

⁵⁰ 659 F Supp 449 (ND Ga 1987) 459.

⁵¹ Ibid. 462.

⁵² Ibid. 463.

⁵³ Ibid. 465.

⁵⁴ See *Gates Rubber Co v Bando Chemical Industries* 9 F 3d 823 (10th Cir 1993) 840; *Autoskill Inc v National Education Support Systems Inc* 994 F 2d 1476 (10th Cir 1993).

⁵⁵ 740 F Supp 37 (D Mass 1990).

⁵⁶ Ibid. 58.

⁵⁷ Ibid. 58-59.

⁵⁸ Ibid. 58.

from the most generalised conception of the idea to the most particularised.⁵⁹ Secondly, a court must determine whether an alleged expression of the idea includes identifiable elements not essential to every expression of that idea. Thirdly, having identified such elements, the court must decide whether they are a substantial part of the allegedly copyrightable work.⁶⁰

The court noted that VisiCalc, 1-2-3 and Excel share the general idea of an electronic spreadsheet, but have expressed the idea in substantially different ways. These products share some elements that are essential to or obvious in every electronic spreadsheet and that have merged with the general idea of an electronic spreadsheet. The court thus held that the rotated "L" screen display, the keys used to invoke the command menus and move the cursor, as well as the symbols used to perform the mathematical calculations, were not copyrightable because of the merger of the idea and the expression of the idea.⁶¹ The court did, however, extend copyright protection to the structure, sequence and organisation of the command-menu system, holding that, although the *idea* of such a system is not copyrightable, a particular command-menu structure, because it is only one of many possible *expressions* of that idea, is.⁶²

8.2.1.4 The *Altai* abstraction, filtration and comparison test

The *Lotus* court laid an important foundation for the next important development in the protection of computer programs, namely the formulation of an equally Byzantine concept: the "abstraction, filtration, and comparison" tripartite test formulated in *Computer Associates International v Altai*.⁶³ In that case the Second Circuit did something unprecedented but widely expected: it criticised and refused to follow *Whelan*.⁶⁴

The court followed the criticisms levelled at the approach of the *Whelan* court in defining the underlying "idea" of a computer program as only one idea and regarding everything else as expression.⁶⁵ The court was of the opinion that the *Whelan* court's synonymous use of the terms "structure, sequence and organisation"⁶⁶ demonstrated a flawed understanding of a computer program's operation and that a distinction should be made between a program's "static structure" and its "dynamic structure".⁶⁷

⁵⁹ Ibid. 60–61.

⁶⁰ Ibid. 61. Worthy "Determining the scope of copyright protection for a computer program's nonliteral elements: Is it as easy as 1 2 3?" 1991 *Washington and Lee LR* 1102 notes that the *Whelan* test defines the idea of a computer program as the program's general purpose and function, and the expression of the idea as everything that is not necessary to the program's purpose and function, provided that the expression does not merge with the idea because of the limited number of ways of expressing the idea. He welcomes the *Lotus* test because it forces courts to define the idea of the program beyond the most general level of abstraction. The range of protectable expressions is narrower when the court defines the idea of a computer program more specifically.

⁶¹ Ibid. 66–67.

⁶² Ibid. 67–68. See also *Engineering Dynamics Inc v Structural Software Inc* 26 F 3d 1335 (5th 1994); Ebersöhn "Protecting copyright in computer games and computer software" 2005 (1) *TSAR* 110–112.

⁶³ 982 F 2d 693 (2d Cir. 1992).

⁶⁴ *Whelan Associates Inc v Jaslow Dental Laboratory Inc* 797 F 2d 1222 (3rd Cir 1986).

⁶⁵ See Groves *Sourcebook on Intellectual Property Law* 302; Nimmer et al. *Copyright for the Nineties* para. 13-62. Note that the *Altai* court failed to recognise that a computer program's ultimate function or purpose is the composite result of the interacting sub-routines and that each sub-routine may be regarded as a program in itself and may be said to have its own "idea".

⁶⁶ See *Whelan Associates Inc v Jaslow Dental Laboratory Inc* 797 F 2d 1222 (3rd Cir 1986) 1224.

⁶⁷ See *Computer Associates International Inc v Altai* 775 F Supp 544 (EDNY 1991) 559–560.

the most particularised.⁵⁹ Second, expression of the idea includes the manner of that idea. Thirdly, having regard to whether they are a substantial part

of the general idea of an electronically different ways. These are obvious in every electronic spreadsheet, the keys used to invoke the symbols used to perform the use of the merger of the idea to extend copyright protection to a command-menu system, holding a particular command-expressions of that idea, is.⁶²

Comparison test

Another important development in the formulation of an equally Byzantine tripartite test formulated by the Second Circuit did something refused to follow *Whelan*.⁶¹ Each of the *Whelan* court in only one idea and regarding the notion that the *Whelan* court's "organisation"⁶⁶ demonstrated a distinction between its "dynamic structure".⁶⁷

A computer program's nonliteral expression of the idea includes the manner of that idea. Thirdly, having regard to whether they are a substantial part of the general idea of an electronically different ways. These are obvious in every electronic spreadsheet, the keys used to invoke the symbols used to perform the use of the merger of the idea to extend copyright protection to a command-menu system, holding a particular command-expressions of that idea, is.⁶²

⁵⁹ 3d 1335 (5th 1994); Ebersöhn 15 (1) TSAR 110-112.

⁶⁰ (1986).
⁶¹ *Right for the Nineties* para. 13-62.
⁶² The ultimate function or purpose of a routine may be regarded as

⁶³ 1 Cir 1986) 1224.
⁶⁴ 1991) 559-560.

The "abstraction, filtration, and comparison" test is used to determine which non-literal elements of a computer program are protectable. The filtration test is applied to different levels of abstraction to distinguish the underlying "idea" of the program from the copyrightable "expression". It has been noted that "abstraction" recognises that computer software does not contain one idea but several.⁶⁸

As a court-appointed expert pointed out in *Computer Associates International v Altai*, a computer program contains many different programs and sub-programs, each of which contains at least one idea. It is possible to arrange all of these ideas on a continuum from the most specific, least general ideas (object code) to the least specific, most general ideas (the "general outline" of the program).⁶⁹

After all of these ideas have been arranged on this continuum, the "filtration" step filters out those ideas deemed to be not protectable by copyright law. Such ideas include broad ideas; elements dictated by logic and efficiency; elements dictated by external considerations; industry standards; and elements in the public domain.⁷⁰

After all the non-protectable elements are filtered out, the "comparison" step looks to see whether what is left is "substantially similar" to the copyright program. If it is, there is a copyright infringement. If it is not, there is no copyright infringement.

In *Apple Computer v Microsoft*⁷¹ the Ninth Circuit followed the *Computer Associates* ruling⁷² by applying the "abstraction, filtration, and comparison" test in what is widely perceived as being the case with the most profound implications for computer-software copyright to date. Apple sued both Microsoft and Hewlett-Packard for infringing its "Lisa" and Macintosh graphical user interface in Microsoft's Windows user interface and HP's New Wave user interface. The court first discarded those portions of Windows and New Wave that Apple had previously licensed. Then it used the "abstraction, filtration, and comparison" test to filter out those portions of Windows and New Wave that were unprotectable. The court said that, although Apple theoretically had copyright protection in the elements of the program that were left, it raised the bar for determining whether this small portion was infringed from "substantially similar" to "virtually identical" and found no infringement.

Thus, the net effect of the *Apple* decision was to grant weak copyright protection in the user interface of a computer software program. In *Lotus Dev Corp v Borland Int'l*⁷³ Lotus claimed that Borland's Quattro-Pro program copied Lotus 1-2-3's menu tree or user interface. Once again Lotus 1-2-3's source or object code had not been copied, only the user interface. Once again, Judge Keeton of the United States District Court for the District of Massachusetts heard the case. And, once again, he held that Lotus's copyright in Lotus 1-2-3 had been infringed.

Borland appealed against Judge Keeton's decision to the First Circuit. Borland admitted that Quattro and Quattro-Pro contained "a virtually identical copy of the

⁶⁸ See Chu and Brunel "Post-*Altai* computer copyright and trade secret decisions" 1994 (January) *Computer Law* 1.

⁶⁹ *Ibid.*

⁷⁰ Pokotilow "Understanding Lotus not as easy as 1-2-3" *Intellectual Property - Supplement to the Legal Intelligencer and PA Law Weekly* 11 March 1996, 7.

⁷¹ 32 USPQ 2d (BNA) 1086 (9th Cir 1994).

⁷² *Computer Associates International v Altai* 982 F 2d 693 (2d Cir 1992), discussed in para 5.21.

⁷³ 799 F Supp 203 (D Mass 1992).

entire 1-2-3 menu tree" but claimed that this was not copyrightable under section 102(b) of the Copyright Act,⁷⁴ because it was "a system, method of operation process, or procedure". The First Circuit agreed with Borland and reversed the district court's decision. It held that "the Lotus menu command hierarchy is an uncopyrightable 'method of operation'".⁷⁵

8.2.2 Copyright protection of computer programs in South Africa

8.2.2.1 Introduction

Chapter 1 of the Copyright Act⁷⁶ deals with copyright in "original" works. Section 2 merely provides that "the following works, if they are original, shall be eligible for copyright". The Act provides copyright protection for a wide variety of works: literary works, musical works, artistic works, cinematograph films, sound recordings, broadcasts, programme-carrying signals, published editions, and computer programs.

The Copyright Amendment Act⁷⁷ created a new, separate category of copyrightable works: computer programs. (Previously computer programs were protected as literary works.) After the commencement of the Amendment Act on 10 July 1992 computer programs are protected as a separate category of work and are specifically excluded from the definition of "literary work".⁷⁸

Before the 1992 Amendment Act was passed, our courts had no difficulty in finding that a computer program could be considered a "literary work" for the purposes of copyright law. This wide interpretation of the term "literary work" was considered and analysed in *Northern Office Micro Computers (Pty) Ltd v Rosenstein*.⁷⁹ The court in that case ruled that the computer program in question had been written down or otherwise reduced to material form – the formulae had been written by hand on paper and the source code was recorded on a computer printout. Also, once the instructions had been recorded on floppy disk, they had been reduced to material form.⁸⁰ The computer program thus qualified for copyright protection as a literary work.⁸¹

"Computer program" is defined as "a set of instructions fixed or stored in any manner and which, when used directly or indirectly in a computer, directs its operation to bring about a result".⁸² It should be noted that a work will be treated as a computer program only once it reaches a stage of development at which it can be used, directly or indirectly, in a computer.

The preliminary work in the preparation of a computer program (such as flow charts) that does not fall within the ambit of the definition of "computer program"

74 17 USC § 102(b).

75 *Lotus Dev Corp v Borland Int'l* 49 F 3d 815 (1st Cir 1995).

76 Act 98 of 1978.

77 Act 125 of 1992.

78 Pistorius "The copyright protection of computer programs: Literary works shunned by the proposed Bill" 1991 *De Rebus* 833; Dean "Copyright Amendment Act, 1992" 1992 *De Rebus* 755; Pistorius and Visser "The Copyright Amendment Act 125 of 1992 and computer programs: A preliminary overview" 1992 *SA Merc Lj* 347-348.

79 1981 (-I) SA 123 (C).

80 Ibid. 132C-D.

81 Ibid. 134H.

82 S 1(1) of the Copyright Act 98 of 1978.

ghtable under section of operation process, reversed the district chy is an uncopyright-

South Africa

inal" works. Section 2, shall be eligible for riety of works: literary and recordings, broad- puter programs.

egory of copyrightable were protected as lit- on 10 July 1992 com- k and are specifically

l no difficulty in find- 'ork" for the purposes work" was considered ein.⁷⁹ The court in that ritten down or other- en by hand on paper lso, once the instruc- ed to material form.⁸⁰ as a literary work.⁸¹

xed or stored in any ounter, directs its oper- k will be treated as a nt at which it can be

rogram (such as flow "computer program"

s shunned by the proposed De Rebus 755; Pistorius and grams: A preliminary over-

will continue to enjoy protection as a literary work. Only once such material reaches a stage of development at which it falls within the ambit of the definition does it cease to constitute a literary work and commence to constitute a computer program. The result is that only the computer program in its final stages, as source code or object code, is afforded *sui generis* treatment; preparatory design materials such as flow charts are treated separately as literary works. The exclusion of preparatory material from the ambit of computer programs is viewed as a serious flaw because a consequence of such exclusion is that integral elements of the work are not protected in an integrated manner.⁸³

Furthermore, the author of a computer program is the person who exercises "control" over the making thereof.⁸⁴ In *Haupt t/a Softcopy v Brewers Marketing Intelligence (Pty) Ltd and Others*⁸⁵ it was held that the concept of "control" for the purposes of determining the author of a computer program is broader than the control exercised by an employer over an employee for purposes of section 21(1)(d) of the Copyright Act. An independent contractor, for example, may therefore be the author of a computer program because he or she exercised control over the making of it.⁸⁶

The copyright in a computer program vests in the copyright owner the exclusive right to exploit the work in South Africa.⁸⁷ In terms of the definition of "adaptation", an adaptation in relation to a computer program includes

- (i) a version of the program in a programming language, code or notation different from that of the program;⁸⁸ or
- (ii) a fixation of the program in or on a medium different from the medium of fixation of the program;

Sections 12 to 19B of the Copyright Act curtail the copyright owner's monopoly over exploitation of the copyright in a particular work in that, under certain circumstances, they permit people to make copies of the work without the copyright owner's prior permission. It is for this reason that these sections are commonly described as containing the so-called statutory defences to actions for copyright infringement.

83 Pistorius and Visser "The Copyright Amendment Act 125 of 1992 and computer programs" 1992 SA Merc LJ 349.

84 See the definition of "author" in s 1(1) of the Copyright Act 98 of 1978.

85 2006 (4) SA 458 (SCA).

86 Ibid. 474F-H.

87 S 11B provides that the copyright owner has the right to do or to authorise the following:

- (a) Reproducing the computer program in any manner or form;
- (b) publishing the computer program if it was hitherto unpublished;
- (c) performing the computer program in public;
- (d) broadcasting the computer program;
- (e) causing the computer program to be transmitted in a diffusion service, unless such service transmits a lawful broadcast, including the computer program, and is operated by the original broadcaster;
- (f) making an adaptation of the computer program;
- (g) doing, in relation to an adaptation of the computer program, any of the acts specified in relation to the computer program in paragraphs (a) to (e) inclusive;
- (h) letting, or offering or exposing for hire by way of trade, directly or indirectly, a copy of the computer program".

88 See *Apple Computer Inc v Rosy t/a Computer Comptronic Corporation and Another* 134 JOC (D); *Sophisticated Design (Pty) Ltd v Jensen Electronics (Pty) Ltd* (unreported TPD case no. 13088/89).

Section 19B(2) provides as follows:

The copyright in a computer program shall not be infringed by a person who is in lawful possession of that computer program, or an authorized copy thereof, if –

- (a) he makes copies thereof to the extent reasonably necessary for back-up purposes;
- (b) a copy so made is intended exclusively for personal or private purposes; and
- (c) such copy is destroyed when the possession of the computer program in question, or authorized copy thereof, ceases to be lawful.

The copies made should be destroyed when the possession of the computer program ceases to be lawful – such as when the computer program is transferred to a third person. Decompilation⁸⁹ for a purpose such as interoperability is not a recognised exception to copyright protection. Decompilation consisting of the copying and translation of the whole or substantial parts of the program would constitute “reproducing the computer program in any manner or form”⁹⁰ or “making an adaptation of the computer program”,⁹¹ both of which acts are exclusively reserved for the author in terms of section 11B. None of the fair-dealing exceptions in section 12 or 19B is applicable to such decompilation.

8.2.2.2 Case-law

Scant case-law exists in South African law on the scope of copyright protection for computer programs. Copyright protection of a computer game first arose in *Nintendo Co Ltd v Golden China TV Game Centre*.⁹² In *Golden China TV Games Centre v Nintendo Co Ltd*⁹³ the court held that a video game is protected as a cinematograph film,⁹⁴ not as a computer program, even though a computer program had been written to create the video game and the game may be fixed by way of such a program.⁹⁵ Shortly after this judgment, the Copyright Act was amended in 1997⁹⁶ to exclude computer programs from the definition of a cinematograph film.⁹⁷

The high court in *Pastel Software (Pty) Ltd v Pink Software (Pty) Ltd*⁹⁸ hesitantly embraced the protection of the “look and feel” of computer programs. In this case,

89 Decompilation is the translation from machine (object) code to source code by means of a decompiler. See Illingworth and Payne (eds) *A Dictionary of Computing* 132. Art. 6 of the Council Directive of 14 May 1991 of the Legal Protection of Computer Programs (91/250/EEC) (OJ L122 17.5.91 42) makes specific provision for decompilation as an exception to the right-holder's rights. Art. 6(1) provides that the authorisation of the right-holder is not be required when reproduction of the code and translation of its form are indispensable to obtaining the information necessary to achieve the interoperability of an independently created computer program with other programs.

90 S 11B(a) of the Copyright Act 98 of 1978.

91 S 11B(f).

92 1995 (1) SA 229 (T).

93 [1996] 4 All SA 667 (SCA).

94 Ibid. 674g.

95 Ibid. 674e–f. A cinematograph film is defined in s 1 of the Copyright Act 98 of 1978 as meaning any “fixation or storage by any means whatsoever on film or any other material of data, signals or a sequence of images capable, when used in conjunction with any other mechanical, electronic or other device, of being seen as a moving picture and of reproduction, and includes the sounds embodied in a sound-track associated with the film, but shall not include a computer program”.

96 By the Intellectual Property Laws Amendment Act 38 of 1997.

97 See Ebersöhn “Protecting copyright in computer games and computer software” 2005 (1) *TSAR* 113–115.

98 399 JOC (T) (case no. 1296/91, 25 July 1991).

by a person who is in lawful thereof, if –

ary for back-up purposes;
ivate purposes; and
outer program in question,

sion of the computer pro-
rogram is transferred to a
operability is not a recog-
consisting of the copying
rogram would constitute
m”⁹⁰ or “making an adap-
clusively reserved for the
ceptions in section 12 or

copyright protection for
ne first arose in *Nintendo*
Times Centre v Nintendo Co
atograph film,⁹¹ not as a
been written to create
program.⁹² Shortly after
exclude computer pro-

ty) Ltd⁹³ hesitantly em-
rograms. In this case,

code by means of a decom-
6 of the Council Directive
EEC) (O/L122 17.5.91 42)
lder's rights. Art. 6(1) pro-
roduction of the code and
essary to achieve the inter-
grams.

3 of 1978 as meaning any
rial of data, signals or a
echanical, electronic or
cludes the sounds em-
puter program”.

ftware” 2005 (1) TSAR

which was decided prior to the amendment of the Copyright Act by the Copyright Amendment Act 125 of 1992, the court held that the screen layouts of an accounting-software package may be the subject of copyright. The respondents admitted that they had copied the screen displays generated by the computer program but argued that the screen displays were ephemeral in nature and not copyrightable. They also argued that, because they had not accessed or reproduced the source code of the program, they had not infringed copyright.⁹⁹

The court rejected the argument that the screen displays were not copyrightable.¹⁰⁰ It held that the displays were reproductions of the original copyright work, namely the screen displays the applicant had drawn on layout sheets.¹⁰¹ These handwritten layout sheets and diagrams were held to be copyrightable; what appeared on the screen of the program was a reproduction of the layout sheets and therefore protectable. The court also confirmed that the screen layout forms part of the program and may not be imitated.

In the United Kingdom an adapted “abstraction-filtration-comparison” test, as devised in *Computer Associates International v Altai*,¹⁰² was adopted. This test was based on a comparison of the operation of the two programs and not of their respective underlying code.¹⁰³ In *Icabos Computer Ltd v Barclays Mercantile Highland Finance Ltd*¹⁰⁴ the court noted that “sufficiently detailed” ideas may be copyrightable.

In *Haupt t/a Softcopy v Brewers Marketing Intelligence (Pty) Ltd and Others*¹⁰⁵ the Supreme Court of Appeal affirmed that the criterion establishing substantial similarity is quality rather than quantity:

where a part of a work is reproduced, the question whether a substantial part had been reproduced depends much more on the quality than the quantity of what had been taken. It is true that, in this case, only 26% of the graphic component and 83% of the search component, consisting of 63 lines of several thousand lines of source code, had been copied, but then, those lines were copied because [the programmer employed by first respondent to write the program] found it to difficult to write them himself. These components were clearly considered a valuable ingredient of the program by both Haupt and the respondents. For these reasons, the copying referred to, in my view, constituted the reproduction of a substantial part of the [computer] program. It follows that the first and second respondents infringed Haupt's copyright in the [computer] program.¹⁰⁶

8.3 Copyright infringement on the Internet

8.3.1 Special forms of infringement

8.3.1.1 Linking

Linking and framing are both methods of using third-party content available on the Internet to enhance a web page or CD-ROM. Linking is the practice of creating a

⁹⁹ Ibid. 409.

¹⁰⁰ Ibid. 409–410.

¹⁰¹ Ibid. 406–407.

¹⁰² 982 F 2d 693 (2d Cir. 1992).

¹⁰³ See *John Richardson Computers Ltd v Flanders* [1993] FSR 497.

¹⁰⁴ [1994] FSR 275.

¹⁰⁵ 2006 (4) SA 458 (SCA).

¹⁰⁶ Ibid. 475H–476B.

link from one web page to another by means of a hypertext link. A hypertext link is made up of highlighted words or symbols that, when "pointed to" with the mouse cursor and "clicked" on, instruct the browser to go to a new web address. Section 1 of the ECT Act defines a hyperlink as "a reference or link from some point on one data message directing a browser or other technology or functionality to another data message or point therein or to another place in the same data message".

The creation of links is a basic element of the World Wide Web, the multiple "criss-crossing" links of which create the conceptual "Web" that gives the medium its name.

Lai¹⁰⁷ explains the technical background to linking:

The World Wide Web (WWW) operates on a text-based language called HTML (Hyper Text Mark-up Language). The text contained in triangular bracket ("`<`" and "`>`") are the HTML directives that determine (in a manner that is similar to the embedded codes used by word processing programs) how the text is to be formatted, and the points of insertion of graphics into text. The potency of HTML is illustrated by the following statement:

`108</sup> of her or his computer, courtesy of the address supplied by the party that published the link.

It is widely agreed that permission to download material via the link must be part of an implied licence granted by the person who made the material available on the Web in the first place.¹⁰⁹ What else could have been intended? The content has been put on the Internet in precisely such a form that it can be downloaded by anyone who uses an Internet browser to request a copy of the material at the relevant address.

However, the scope of the implied licence is the subject of debate. It is generally agreed that the common-law principles pertaining to the terms a court will read into

107 *The Copyright Protection of Computer Software in the United Kingdom* 232-233 (appendix 5).

108 Random Access Memory, the computer's temporary "memory".

109 See, for example, Hughes "Intellectual property and browsing the Web" 55; Ebersöhn "Hyperlinking and deep-linking" 2003 (2) *Juta's Business Law* 75; Garrote "Linking, framing and copyright: A comparative law approach" http://papers.ssrn.com/sol3/papers.cfm?abstract_id=280596 (accessed July 2008).

ink. A hypertext link is "ed to" with the mouse b address. Section 1 of ome point on one data nality to another data message".

eb, the multiple "criss- the medium its name.

called HTML (Hyper et ("<'and'>") are the the embedded codes ed, and the points of ted by the following

rects the web-browser rms:

Text Transfer Proto- n loc.gov (the Library ve the graphic image

ts constituent compo- it on the number of se sites.

ght. The coloured or dicate a link are usu- address or Uniform o be a "work". Never- et browser will down- eating a copy in the ed by the party that

he link must be part erial available on the he content has been aded by anyone who relevant address.

ebate. It is generally t court will read into

ppendix 5).

5; Ebersöhn "Hyperlink- raming and copyright: A act_id=280596 (accessed

a contract dictate that the terms of the implied licence are limited in nature. In particular, there is no reason to assume that by putting copyright material on the Internet the copyright owner is by implication permitting surfers to re-use the material for commercial purposes.

In particular, the practice of "deep" hyperlinking, of providing links that bypass the provider's homepage (which may contain advertising and other commercial information), may not be permissible in terms of the implied licence, especially if the deep hyperlink is presented on a commercial site. Reed¹¹⁰ argues that four main arguments for an implied licence may be raised in favour of "deep linking". First, he argues that the Internet is structured as series of interlinked web pages rather than stand-alone websites. Secondly, he notes that HTML, the language most web pages are written in, is designed for linking web *pages* rather than websites. Thirdly, he points to the fact that right-holders have technical means¹¹¹ of ameliorating any negative effects of linking. Lastly, he maintains that the Internet would be very unusable without linking functionality.¹¹²

A contractual term, like an implied licence, will only be implied when the parties had that term in mind but did not express it and would have done so had the issues concerning that term been brought to their attention.¹¹³ A term will also be implied for the sake of fairness or for reasons of policy or because of the rule of law.¹¹⁴ For example, it may be strongly argued that the functions performed by hyperlinking serve the public interest.¹¹⁵ Recently, a German court invoked this implied licence doctrine in holding that the reproduction of an image in a hyperlink is not an infringement of copyright.¹¹⁶

Linking raises concerns of trade-mark infringement in that it may explicitly or implicitly suggest an unwarranted association between the linking and linked sites and lead a user to believe that an non-associated web page is affiliated to or approved or sponsored by the trade-mark owner.¹¹⁷ The deep link does not actually reproduce the copyright owner's material. Deep linking is more of a contract-law or trade-practices law issue than it is one of copyright.

8.3.1.2 Framing online content

Lai¹¹⁸ sketches the technical background to framing as follows:

The remote user's web-browser display is subdivided into a set of rectangular windows or frames – each of which can be manipulated independently; or the text can be scrolled

¹¹⁰ "Copyright in www pages" 1997 *Computer Law and Security Report* 167, 171.

¹¹¹ Such as the robot-exclusion protocol or scripts which direct all users via the homepage of the target web page's website.

¹¹² Also refer to Ebersöhn "Hyperlinking and deep-linking" 2003 (2) *Juta's Business Law* 75–76.

¹¹³ Allgrove and Ganley "Search engines, data aggregators and copyright law: A proposal" [2007] *EIPR* 234.

¹¹⁴ Ibid.; Garrote "Linking, framing and copyright" http://papers.ssrn.com/sol3/papers.cfm?abstract_id=280596 (accessed July 2008).

¹¹⁵ Ibid.

¹¹⁶ *An Artist v Google* 3 0 1108/05 Landgericht Erfurt, 15 March 2007.

¹¹⁷ See paras 94–98 of the IP Survey at www.wipo.int/copyright/ecommerce/en/ip_survey/ip_survey.html (accessed 10 October 2007); Ebersöhn "Framing and intellectual property law" 2003 (1) *Juta's Business Law* 49.

¹¹⁸ Lai *The Copyright Protection of Computer Software in the United Kingdom* 234.

up or down. Framing is accomplished by using the provisions of the HTML language – the first step is to define a “frame set”, which divides the screen into different sections (eg see the CNN interactive homepage <<http://www.cnn.com>>). Typically a “site index” appears on the left of the page and remains there, regardless of which page is being displayed.

“Framing” practices are more controversial than linking. Framing is the practice of including large parts from another’s website in one’s own in such a way that those other parts look as though they are part of one’s website. It entails the creation of a frame or window within a web page, in which frame or window the content of a different web page can be displayed. Usually when a surfer clicks on a link the new web page is presented as its owner intended it to be, but many pages also present the content of third-party web pages as links “framed” within the source page. Frames are most often – and legitimately – used to help define a single content-provider’s web pages and help web surfers “navigate” them. However, if frames are used to present third-party material from commercial sites, framing can have an effect similar to that of deep hyperlinking. Copyright and trade-mark concerns arise, as do questions of passing off, misleading or deceptive conduct, and copyright infringement.

Firstly, framing may constitute copyright infringement in that a copy of the material is made in the computer’s memory. The user sees the original website content, which may be copyright protected, framed by a different website with a different URL and possibly with different logos and advertising.

Secondly, framing raises concerns of trade-mark infringement because of its potential for misleading or confusing viewers about the true origin of the framed site and the goods and services it displays. Whereas linking “transfers” the web surfer to the website containing the linked material, users viewing framed material usually remain on the original site and effectively view content from both sites, possibly without being aware that the material has been called up from another site. This raises the potential for trade-mark liability.

8.3.1.3 Case-law on linking and framing

Unfortunately, the two most famous cases dealing with linking and framing, *Shetland Times v Dr Jonathan Wills and Zetnews Ltd*¹¹⁹ and *Ticketmaster Corp v Microsoft Corp*¹²⁰ where commercial sites presented valuable content from competing sites using “deep” hyperlinks, were settled before judgment.

In the *Shetland Times* case the defendant had provided links to newspaper articles held on the claimant’s website in which articles the claimant held copyright. The defendant reproduced portions of the headlines in the hyperlink visible to the user. The links in question were deep links bypassing the claimant’s homepage and accordingly missing any advertising materials placed there.

The claimant maintained that the headlines made available by it on its website are cable programmes within the meaning of section 7 of the Copyright, Designs and Patents Act 1988 (“the 1988 Act”). As the facility made available by the defendants on their website is a cable programme service within the meaning of section 7, it was

¹¹⁹ [1997] FSR 604.

¹²⁰ US District Court, Central District of California, case no. 97-3055 DDP, 28 April 1997. The complaint is available at <http://legal.web.aol.com/decisions/dlip/tickcomp.html>.

argue
const
vice i
that
elect
Act.
ited:
to be
obtai
vide
ants

Th
1997
the
appe
serte

In
Seat
passi

In
Tick
mast
held
com
orde

Th
tecti
they
ther
disa

121
122
123
124

125
126

127

128

129

s of the HTML language –
een into different sections
n.). Typically a “site index”
of which page is being dis-

Framing is the practice of
in such a way that those
It entails the creation of a
ndow the content of a dif-
cks on a link the new web
y pages also present the
the source page. Frames
single content-provider's
if frames are used to pre-
have an effect similar to
ns arise, as do questions
ht infringement.

that a copy of the ma-
original website content,
website with a different

ent because of its poten-
of the framed site and
s” the web surfer to the
material usually remain
sites, possibly without
her site. This raises the

; and framing, *Shetland
Corp v Microsoft Corp*¹²⁰
competing sites using

to newspaper articles
t held copyright. The
ink visible to the user.
homepage and accord-

by it on its website are
opyright, Designs and
le by the defendants
ng of section 7, it was

28 April 1997. The com-
html.

argued on behalf of the claimant that the unauthorised inclusion of its headlines constituted the inclusion of a protected cable programme in a cable programme service in contravention of section 20 of the 1988 Act.¹²¹ The claimants also maintained that the headlines are literary works and that the defenders' storing the works by electronic means constituted copyright infringement under section 17 of the 1988 Act. Lord Hamilton carefully noted that the evidence before him was extremely limited and that, although the case might ultimately turn on technological evidence yet to be presented, the claimant had met the lower evidentiary standard necessary to obtain the interdict sought.¹²² The court held that the fact that the information is provided to the user through the defendant's website does not mean that the defendants become the persons sending the information.¹²³

The *Shetland Times* case was settled on the day it was to be heard, in November 1997.¹²⁴ The terms of settlement permitted the defendant to use deep hyperlinks to the *Shetland Times*' reports, provided that a link to the *Shetland Times* homepage appears on the defendants' website and the phrase “A *Shetland Times* story” is inserted below every headline hyperlink.¹²⁵

In *Ticketmaster Corp v Microsoft Corp*¹²⁶ the complaint was that a Microsoft site called Seattle Sidewalk provided links directly to Ticketmaster's online ticket-sales page, bypassing ticket-sales information and advertisements.¹²⁷

In *Ticketmaster v Tickets.com Inc*¹²⁸ the application by Ticketmaster Corporation and Ticketmaster Online-Search, Inc. (hereinafter collectively referred to as “Ticketmaster”) for a temporary interdict against Tickets.com Inc. was refused. The court held that there was “no public policy that would be served by restricting [Tickets.com] from using spiders”¹²⁹ to temporarily download [Ticketmaster's] event pages in order to acquire the unprotected, publicly available factual event information.”

The second copyright problem was whether the URLs are subject to copyright protection. Ticketmaster conceded that the URLs are strictly functional, but argued that they are entitled to copyright protection because there are several ways of writing them; hence, original authorship is used in their specific formulation. The court disagreed. It held that a URL is simply an address open to the public, like the street

¹²¹ See www.linksandlaw.com/decisions-87.htm.

¹²² Ibid.

¹²³ Ibid.; [1997] FSR 604 608.

¹²⁴ See Netlitigation “Linking, framing and metatagging” www.netlitigation.com/netlitigation/cases/shetland.htm.

¹²⁵ Ibid.

¹²⁶ US District Court, Central District of California, case no. 97-3055 DDP, 28 April 1997. See <http://legal.web.aol.com/decisions/dlip/tickcomp.html>.

¹²⁷ See the complaint at www.ljx.com/internet/tktmaster.html and <http://legal.web.aol.com/decisions/dlip/tickcomp.html> (accessed July 2008).

¹²⁸ US District Court, Central District of California, US Dist LEXIS 6483, 6 March 2003. The full judgment is available at http://eric_goldman.tripod.com/caselaw/ticketmastermarch72003.htm (accessed 2 July 2008).

¹²⁹ Spiders, also referred to as webcrawlers, are programs or automated scripts that browse the World Wide Web in a methodical, automated manner. They are used by search engines to retrieve web pages to include in their databases. See www.webopedia.com/TERM/s/spider.html; www.webmasterworld.com/glossary/spider.htm and http://en.wikipedia.org/wiki/Web_crawler (accessed August 2008) for a detailed description.

address of a building, which, if known, enables the user to find the building. The court referred to *Feist Publications Inc. v Rural Telephone Service Co.*¹³⁰ and held that, just as addresses and telephone numbers contained in a directory do not have copyright protection¹³¹ despite the fact that time, money and effort went into their compilation, the existence of the event, its date and time, and its ticket prices are similarly not subject to copyright. Anyone is free to print (or show on the Internet) such information.¹³² The court also held that there appear to be no cases holding URLs to be subject to copyright. It noted that, on principle, URLs ought not to be.¹³³

The other copyright problem the court addressed was whether Tickets.com's deep linking caused the unauthorised public display of Ticketmaster event pages in violation of Ticketmaster's exclusive rights of reproduction and display under 17 USC § 106.¹³⁴ The court noted that users who clicked on the links on the Tickets.com site were taken directly to the originating Ticketmaster site, which was clearly identified as such. The court dismissed the copyright-infringement claim and held that, as a matter of law, it was unclear that the linking to Ticketmaster.com event pages would constitute a showing or public display in violation of 17 USC § 106(5).¹³⁵

A Danish court in July 2002 ruled in *Danish Newspaper Publishers' Association v Newshooter.com*¹³⁶ that deep linking is a breach of copyright. The case was brought by the Danish Newspaper Organisation against the Newsbooster service which linked to articles on 28 of the plaintiff's news websites without going through their home pages. The court held that the newspaper articles were copyrightable works:

The text collections of headlines and articles, which make up some Internet media, are thus found to constitute databases enjoying copyright protection pursuant to section 71 of the Danish Copyright Act. Under section 71(1) of the Act, the makers of the databases, i.e. the Principals, have the exclusive right protected by the said provision.¹³⁷

Regarding liability for linking, the court held that Newsbooster offers its users regular relevant headlines with deep links to articles on Newsbooster's website or in Newsbooster's electronic newsletters by means of its search engine. These links need to be supplemented and updated regularly; consequently, Newsbooster's search engine needs to crawl the websites of the Internet media frequently for the purpose of registering headlines and establishing deep links in accordance with the search criteria defined by users.¹³⁸ As a result, Newsbooster repeatedly and systematically reproduces and publishes the principals' headlines and articles.

¹³⁰ 499 US 340, 113 L Ed 2d 358, 111 S Ct 1282 (1991).

¹³¹ See *Feist Publications Inc. v Rural Telephone Service Co.* 499 US 340 (1991), 113 L. Ed 2d 358 (1991), 111 S Ct 1282 (1991).

¹³² See http://eric_goldman.tripod.com/caselaw/ticketmastermarch72003.htm.

¹³³ *Ticketmaster v Tickets.com Inc* US District Court, Central District of California, US Dist LEXIS 6483, 6 March 2003, http://eric_goldman.tripod.com/caselaw/ticketmastermarch72003.htm (accessed 2 July 2008).

¹³⁴ Exclusive rights in copyrighted works.

¹³⁵ See fn. 127 above.

¹³⁶ ApS Copenhagen Court, 24 June 2002, Court Journal No. F1-8703/2002.

¹³⁷ The quotations from the court's ruling were obtained from "Translation of pages 29-42 of the ruling made by the Bailiff's Court on 5 July 2002" www.newsbooster.com/?pg=judge&lan=eng (accessed 22 July 2007).

¹³⁸ "Crawl" is what spiders (see fn. 129 above) used by search engines do when they browse through web sites. This process is called web crawling or "spidering". Many sites, particularly those of search

to find the building. The Service Co.¹³⁰ and held that, directory do not have copy-right effort went into their com-d its ticket prices are sim-how on the Internet) such no cases holding URLs to ight not to be.¹³³

ether Tickets.com's deep etmaster event pages in and display under 17 USC s on the Tickets.com site ich was clearly identified aim and held that, as a .com event pages would § 106(5).¹³⁵

Publishers' Association v he case was brought by service which linked to g through their home ightable works:

ne Internet media, are pursuant to section 71 e makers of the data-aid provision.¹³⁷

oster offers its users ooster's website or in ine. These links need sbooster's search en-ly for the purpose of nce with the search ly and systematically

L Ed 2d 358 (1991). 111

m.
ia, US Dist LEXIS 6483,
ch72003.htm (accessed

of pages 29–42 of the
n/?pg=judge&lan=eng

they browse through
cularly those of search
continued

As Newsbooster has a commercial interest in this business its activity was in conflict with section 71(2) of the Danish Copyright Act.¹³⁹ The court prohibited Newsbooster from offering a search service with deep links from the websites newsbooster.dk and newsbooster.com directly to the plaintiffs' news articles; reproducing and publishing headlines from the Internet versions of newspaper articles; distributing electronic newsletters with deep links directly to the newspaper articles; and reproducing and distributing headlines from the newspapers.¹⁴⁰

A similar ruling was made in *Copiepresse SCRL v Google Inc*¹⁴¹ in which the court held that Google's news service, by using in its hyperlinks the titles of and short extracts from articles, infringes Belgian authors' rights to reproduce works and communicate them to the public.

In the United States, in *Washington Post Co. v Total News, Inc.*¹⁴² Total News was accused of, among other things, copyright and trade-mark infringements arising from its framing of news that originated from the *Washington Post* and other news organisations.¹⁴³ Total News and its associated companies offered a news service that provided links to other major web-based news services. However, when a "websurfer" clicked on the links the whole of the linked page was not downloaded: the original news service was presented within a Total News frame. Total News was sued by the *Washington Post*, Cable News Network and Reuters News Media. The plaintiffs pointed out that, by inserting its own advertising in the frame and reducing the size of their web pages as presented online, Total News had cluttered and reduced the size of the plaintiffs' advertising, impairing delivery of the advertising that each had promised its advertisers.

The case was settled in June 1997. In terms of the settlement, Total News was permitted to link to the plaintiffs' websites but to do so in highlighted plain text and not in a manner that might imply an affiliation between itself and the plaintiffs or cause confusion about or "dilute"¹⁴⁴ the plaintiffs' trade marks.

In *Kelly et al v Arriba Software Corporation*¹⁴⁵ the court considered the legal effect of inline linking.¹⁴⁶ The court held that such linking did not constitute copyright

engines, use spidering as a means of providing up-to-date data. See www.webopedia.com/TERM/s/spider.html and www.webmasterworld.com/glossary/spider.htm (accessed Aug 2008).

¹³⁹ Ibid.

¹⁴⁰ Ibid.

¹⁴¹ Court of First Instance, Brussels, 5 September 2006. The judgment is available at www.chillingeffects.org/international/notice.cgi?action=image_7796 (as at 9 October 2006) and in English at www.copiepresse.be (accessed July 2008). See discussion of this case in Klein "Search engines and copyright: An analysis of the Belgian *Copiepresse* decision in consideration of British and German copyright law" 2008 (4) *International Review of Industrial Property and Copyright Law* 451–483. *Contra Algemeen Dagblad BV et al v Eureka Internetdiensten* case no. 139609/KG ZA 00-846, District Court of Rotterdam 22 August 2000 (unofficial translation available at www.ivir.nl/rechtspraak/kranten.com.html), discussed by Ebersöhn "Hyperlinking and deep-linking" 2003 (2) *Juta's Business Law* 76.

¹⁴² No. 97 Civ. 1190 (PKL) (SDNY).

¹⁴³ See paras 138 and 139 of the IP Survey at www.wipo.int/copyright/ecommerce/en/ip_survey/ip_survey.html (accessed 10 October 2007).

¹⁴⁴ The law of the United States recognises dilution of trade marks.

¹⁴⁵ 280 F 3d 934 (9th Cir 1992).

¹⁴⁶ Inline linking, or "hotlinking", is the practice of linking from the page of a first site to an object, often an image, on a second site in such a manner that the object appears to belong on the page
continued

infringement, as it does not entail copying but rather the importing of content directly from the defendant's website.¹⁴⁷ The court held that these activities infringed the plaintiff's exclusive right to display his works publicly. The court held that Arriba, the defendant, was displaying Kelly's works publicly as the public had unrestricted access to plaintiff's images.¹⁴⁸ The defendant was held liable for direct copyright infringement because, in having its program link and frame the plaintiff's images, it had acted as more than a passive conduit of the images. Arriba was an active conduit in that it had established a direct link to the copyrighted images.¹⁴⁹

Allgrove and Ganley convincingly argue that there is little doubt that a URL, in and of itself, is not copyrightable.¹⁵⁰ They argue that a URL does not meet the threshold requirement for treatment as a literary work and that, even if it did, a URL is not "original". They maintain that it is less clear-cut whether the URL may be infringing if it extracts text or images from the target website and includes them in the visible link to the user. In their view, however, it is likely that courts will hold that such use is infringing when the whole of an image is used as part of a hyperlink, even if only a "thumbnail" of the original is used.¹⁵¹ Allgrove and Ganley also maintain that, notwithstanding the court's ruling in *Shetland Times v Dr Jonathan Wills and Zetnews Ltd*,¹⁵² repeated presentations of hyperlinks to copyright content in response to different requests by various users over a period of time may constitute communication to the public.¹⁵³

8.3.2 Caching

Caching is also a form of copyright infringement on the Internet. It is the storing of copies of material from an original source site, such as a web page, for later use when the same material is requested again, thereby obviating the need for the original source to be consulted again for that material.¹⁵⁴ To establish the necessary implications for the reproduction right and exceptions thereto, caching has to be studied so that (i) its purpose can be determined; (ii) its various forms ascertained; (iii) its attributes ascertained, particularly in relation to transience; and (iv) its "integral" or other nature ascertained.

of the first site. Inline linking to an image stored on another site increases the bandwidth use of that site, even though the site is not being viewed in its intended form. Since bandwidth is a commodity, unauthorised use can increase the maintenance costs of the website hosting the image, hence the term "bandwidth theft". See www.experiencefestival.com/a/Inline_linking/id/1926480 (accessed August 2008).

147 Ibid. 944.

148 Ibid. 945.

149 Ibid. 947.

150 "Search engines, data aggregators and copyright law" [2007] *EIPR* 231.

151 Ibid. 231-232.

152 [1997] FSR 604.

153 "Search engines, data aggregators and copyright law" [2007] *EIPR* 232-233. The authors rely on a recent European Court of Justice decision, *Sociedad General de Autores y Editores España (SAGE) v Rafael Hoteles SL* case no. C-306/05, 7 December 2006.

154 Lai *The Copyright Protection of Computer Software in the United Kingdom* 235-236.

8.3.2.1 Types of caching

There are generally four types of caching:

- **Mirror caching.** Mirror caching is the process whereby a frequently accessed web site is downloaded to another server in anticipation that the information will be required sometime in the future. This practice helps reduce Internet traffic in that a user need not "click through" to read the page from the original source.
- **Web caching.** Many Internet service providers (ISPs) operate web caches, of which there are two kinds: pull-caches and push-caches. The content of pull-caches is determined by which pages are requested by the users – these caches respond to actual demand for web pages from remote sites and store the most frequently accessed web pages. Push-caches, on the other hand, receive pages from remote sites in anticipation of demand. In this way time-consuming reloads are avoided.
- **Proxy caching.** This occurs when a local area network (LAN) or corporate in-house network stores frequently-used material. Alternatively, ISPs also may store on their servers for a certain period of time web pages previously requested by their users. When such pages are again request, they would be downloaded from the server rather than original source.
- **User caching.** A user's web browser, for example Netscape or Internet Explorer, caches the web pages accessed during a particular browsing session (cached pages are accessed by the "Back" and "Forward" functions of the browser). Browsers such as Netscape and Internet Explorer have a cache file which stores all the web pages "browsed" by the user over time. If the user does not clean out her or his cache, the material (copyright-infringing or otherwise) remains as a file in a sub-directory in the computer's hard disk.

As caching entails the copying (and storing) of Web pages, it may undermine a number of the exclusive rights granted to copyright owners including those of reproduction, when a copy is made in the local memory of a computer, and distribution and public display, when proxy caching occurs. In addition, because cached pages could detour Internet traffic from the original Web page to another, caching may constitute trade-mark infringement. To date, however, there have been no judicial decisions on the permissibility of caching under copyright or trade-mark law.

In *Copiepresse SCRL v Google Inc*¹⁵⁵ the court held that Google's cache service infringed the authors' rights of reproduction and communication. Google infringed these rights by storing a copy of each page in the cached memory of Google's servers. The communication right was infringed because users could then click on the cached hyperlink which would lead them to the cached contents on Google's own website. The court also noted that Google could not rely on any exception or limitation for citation or reporting of news, because its activities amounted to the collection of material from the Internet.¹⁵⁶

¹⁵⁵ See fn. 141 above.

¹⁵⁶ See Anon "Copyright law" 2008 (4) *International Review of Industrial Property and Copyright Law* 491; Klein "Search engines and copyright" 2008 (4) *International Review of Industrial Property and Copyright Law* 451–483.

importing of content
these activities infringed
court held that Arriba,
public had unrestricted
or direct copyright in-
e plaintiff's images, it
was an active conduit
s.¹⁴⁹

doubt that a URL, in
not meet the thresh-
if it did, a URL is not
RL may be infringing
s them in the visible
s hold that such use
ll hold that such use
erlink, even if only a
maintain that, not-
ills and Zetnews Ltd,¹⁵²
onse to different re-
ommunication to the

It is the storing of
for later use when
d for the original
necessary implic-
has to be studied
certained; (iii) its
v) its "integral" or

he bandwidth use of
bandwidth is a com-
hosting the image,
linking/id/1926480

e authors rely on a
s España (SAGE) v

8.4 Legislative responses to the digital agenda

The huge scale of such technological developments as the convergence of computing, telecommunications and broadcasting technologies has prompted a review of copyright law in the United States. The United States' National Research Council commissioned an expert panel to report on intellectual-property issues in the digital age. The committee examined the "difference of digital" in detail. It coined the term "digital dilemma" to refer to the problems that interested parties face.¹⁵⁷ The Committee explains the heart of the digital dilemma as follows:

This deceptively simple problem illustrates the combination of promise and peril that make up the digital dilemma. The information infrastructure – by which we mean information in digital form, computer networks and the World Wide Web – has arrived accompanied by contradictory powers and promises. For intellectual property in particular it promises more – more quantity, quality and access – while imperiling one means of rewarding those who create and publish. It is at once a remarkably powerful medium for publishing and distributing information, and the world's largest reproduction facility. It is a technology that can enormously improve access to information, yet can inhibit access in ways that were never before practical. It has the potential to be a vast leveler, bringing access to the world's information resources to millions who had little or no prior access, and the potential to be a stratifier, deepening the division between the information "haves" and the "have-nots".¹⁵⁸

The contribution of the Internet in the creation, production (and reproduction) and use of literary and artistic works, performances and recordings, and its potential for undermining the basic tenets of copyright and related rights, led to the adoption by the World Intellectual Property Organisation (WIPO) in December 1996 of two new treaties, the WIPO Copyright Treaty (WCT)¹⁵⁹ and the WIPO Performances and Phonograms Treaty (WPPT), together commonly referred to as the "Internet treaties". Key aspects of these international treaties and of the national copyright laws that relate to them include the communication right, the management of rights information and anti-circumvention provisions.

The Digital Agenda was adopted by WIPO in 1999. It consists of ten guidelines and goals, and evidences WIPO's determination to seek solutions to problems raised by the impact of electronic commerce on intellectual property rights.¹⁶⁰ The main features of the Digital Agenda include the entry into force of the WCT and WPPT before December 2001. The Digital Agenda also addressed the promotion of the adjustment of the international legislative framework to facilitate electronic commerce through the adaptation of broadcasters' rights to the digital era and progress towards a possible international instrument on the protection of databases. The

157 Committee on Intellectual Property Rights in the Emerging Information Infrastructure (National Research Council) *The Digital Dilemma: Intellectual Property in the Information Age* (2000) "Executive Summary" http://books.nap.edu/catalog.php?record_id=9601 (accessed July 2008).

158 Ibid. 2.

159 Adopted at the WIPO Diplomatic Conference on Certain Copyright and Neighbouring Rights Questions that met in Geneva. The WCT entered into force on 6 March 2002, in accordance with its art. 20. See WCT Notification No. 32 WIPO Copyright Treaty Entry into Force, 6 December 2001, www.wipo.int/treaties/notifications/wct/0032.html.

160 See Idris "Digital Agenda for WIPO" PR/99/185 (rev) 31 October 1999, www.wipo.int/edocs/prdocs/en/1999/wipo_pr_1999_185.html (accessed July 2008).

widely. It has been held that the making of temporary or permanent electronic copies of works amounts to copyright infringement: in *Pastel Software (Pty) Ltd v Pink Software (Pty) Ltd*¹⁶⁶ it was held that the temporary and transient electronic reproduction of a work on a computer screen constituted copyright infringement.

There is international agreement that the permanent electronic storage of a work is a restricted act. The United States' White Paper on Intellectual Property and the National Information Infrastructure notes the following:

It has long been clear under U.S. law that the placement of copyrighted material into a computer's memory is a reproduction of that material . . . in each of instances set out below, one or more copies is made . . .

When a printed work is "scanned" into a digital file, a copy – the digital file itself – is made.

When other works – including photographs, motion pictures, or sound recordings – are digitalized, copies are made.

Whenever a digitalized file is "uploaded" from a user's computer to a bulletin board system (BBS) or other server, a copy is made.

Whenever a digitalized file is "downloaded" from a BBS or other server, a copy is made. When a file is transferred from one computer network user to another, multiple copies generally are made.¹⁶⁷

The WCT is of particular importance as far as the right to reproduce is concerned. Although the WCT does not expressly provide for the reproduction right, article 1(4) of the Treaty incorporates the substantive provisions of the Berne Convention for the Protection of Literary and Artistic Works. The right to make a reproduction is applied to the storage of works in digital systems of a permanent, temporary, transient or incidental nature.

The WIPO Diplomatic Conference on Certain Copyright and Neighbouring Rights Questions¹⁶⁸ adopted the following statement concerning article 1(4):

The reproduction right, as set out in Article 9 of the Berne Convention, and the exceptions permitted thereunder, fully apply in the digital environment, in particular to the use of works in digital form. It is understood that the storage of a protected work in digital form in an electronic medium constitutes a reproduction within the meaning of Article 9 of the Berne Convention.¹⁶⁹

A transient or temporary copy may be made when a file is loaded into the RAM of a computer,¹⁷⁰ when a work is saved on the hard disk of a computer or on a CD-ROM, when a work placed on a website is downloaded (by viewing it, saving it on a disk or printing it), and when a work is uploaded on a website. Copying also takes place when proxy-server caching is employed to make information more readily

166 399 JOC (T) (case no. 1296/91, 25 July 1991).

167 Working Group on Intellectual Property Rights "Intellectual property and the national information infrastructure" www.uspto.gov/go/com/doc/ipnii/lawcopy.pdf (accessed July 2008).

168 The conference at which the WIPO Copyright Treaty was adopted in Geneva on 20 December 1996.

169 The agreed statements of the Diplomatic Conference concerning certain provisions of the WCT are reproduced in endnotes below the text of the WCT. Note 1 contains the agreed statement concerning art. 1(4). The full text of both the WCT and note 1 is available at www.wipo.int/treaties/en/ip/wct/pdf/trtdocs_wo033.pdf (accessed 10 July 2008).

170 See *MAI Systems Corp v Peak Computer Inc* 991 F 2d 511 (9th Cir 1993); *Microsoft Corporation v Business Boost (Pty) Ltd* (2000) 49 IPR 573.

accessible.¹⁷¹ It has been argued that an end-user's screen display itself may amount to a copy.¹⁷²

In this context, article 7(2) of the Basic Proposal for the Substantive Provisions of the Treaty on Certain Questions Concerning the Protection of Literary and Artistic Works is important. The Chairman of the Main Committee of Experts on a Possible Protocol to the Berne Convention¹⁷³ stated that

Subject to the provisions of Article 9(2) of the Berne Convention, it shall be a matter for legislation in Contracting Parties to limit the right of reproduction in cases where a temporary reproduction has the sole purpose of making the work perceptible or where the reproduction is of a transient or incidental nature, provided that such reproduction takes place in the course of use of the work that is authorized by the author or permitted by law

The WCT does not address or expand the reproduction right. The drafters of the Treaty deemed the Berne Convention's broad formulation of the right¹⁷⁴ wide enough to cover forms of copying unknown at the time of the drafting of the WCT.¹⁷⁵

8.4.1.3 Publication

In terms of the Copyright Act¹⁷⁶ a literary or musical work is published when copies of it are issued to the public.¹⁷⁷ "Copy", in relation to a "literary, musical or artistic work, a cinematograph film or a computer program", is defined as a reproduction of the work or an adaptation of it.¹⁷⁸ The formal requirements for the subsistence of copyright protection are that the work must either have been made by a qualified person¹⁷⁹ or first published in a member country of the World Trade Organisation.¹⁸⁰ A literary work is deemed published if copies of it are issued to the public with the consent of the copyright owner.¹⁸¹ Section 1(5) of the Copyright Act is clearly aimed at the issuing of tangible media, such as books or disks, to the public.

Given that, in terms of section 2(2) of the Copyright Act, a work "represented in digital data or signals" complies with the requirement of material embodiment, we may conclude that a digitised literary work meets the inherent requirements for copyright protection. It then follows that making available to the public reproductions of such a work in digital format amounts to the "making available of copies" of that work.

¹⁷¹ Lim *Cyberspace Law Commentaries and Materials* 449.

¹⁷² See Smith *Internet Law and Regulation* para. 2-064.

¹⁷³ Chairman of Main Committee I "Partly consolidated text of Treaty No. 1" 12 December 1996, CRNR/DC/55, Diplomatic Conference on Certain Copyright and Neighbouring Rights Questions, Geneva, 2-20 December 1996, available at www.wipo.int/documents/en/diplconf/distrib/msword/55dc.doc (accessed July 2008).

¹⁷⁴ Art. 9 of the Berne Convention provides for reproduction in "any manner or form".

¹⁷⁵ See Campbell and Bán (eds) *Legal Issues in the Global Information Society* 149.

¹⁷⁶ Act 98 of 1978.

¹⁷⁷ S 1(5).

¹⁷⁸ S 1(1).

¹⁷⁹ S 3, read with GN 1558 in *Government Gazette* 17517 of 1 November 1996.

¹⁸⁰ See s 4(1)(a) of the Copyright Act, read with GN 1558 of *Government Gazette* 17517 of 1 November 1996.

¹⁸¹ S 1(5).

y or permanent electronic
astel Software (Pty) Ltd v Pink
nsient electronic reproduc-
t infringement.

electronic storage of a work
Intellectual Property and the

copyrighted material into a
n each of instances set out

copy – the digital file itself –

pictures, or sound record-

r's computer to a bulletin

S or other server, a copy is
network user to another,

o reproduce is concerned.
reproduction right, article
of the Berne Convention
it to make a reproduction
a permanent, temporary,

and Neighbouring Rights
rticle 1(4):

vention, and the excep-
ment, in particular to the
e of a protected work in
on within the meaning of

s loaded into the RAM of
a computer or on a CD-
viewing it, saving it on a
bsite. Copying also takes
information more readily

y and the national information
essed July 2008).

Geneva on 20 December 1996.

certain provisions of the WCT
ains the agreed statement con-
able at www.wipo.int/treaties/

: Microsoft Corporation v Business

A contrary argument is that the stream of bits from the website to the user's computer may not constitute a copy at any point in time. The only copy of the work that comes into existence is the copy that is created when the bits are assembled at the user's computer. Thus, one cannot say that the website owner issued copies to the public.¹⁸² A related argument is that making a work available on a website does not amount to publication because the website proprietor plays only a passive role.¹⁸³ It may be argued that even if the term "copies" refers to more permanent reproductions, making a work available on a website may still constitute publication because anyone who downloads that work can make or reproduce it in a permanent format: the work can be stored on a computer's hard disk or printed.

Courts interpret the law in a purposive manner to ensure that the law remains effective in the digital environment.¹⁸⁴ It follows that works that are first made available on the Internet qualify for copyright protection. Many literary works are only published in digital format. The mere fact that a work can be accessed online as opposed to on CD-ROM or printed form should not have any effect on the copyright protection of the work. These remarks are also applicable to unauthorised publication and unauthorised distribution of a work.

8.4.1.4 "Communication to the public"

The control of the communication of digital works is as important as the control of copying.¹⁸⁵ The Copyright Act offers the copyright owner the right to distribute his or her work by broadcasting it and by transmitting it in a diffusion service. These rights are limited to content that may be transmitted through broadcasts and programme-carrying signals.¹⁸⁶

During the "up-leg" of a transmission, a programme-carrying signal¹⁸⁷ is a broadcast.¹⁸⁸ Once the broadcast passes through a satellite it is transformed from a broadcast to a programme-carrying signal.¹⁸⁹ Broadcasts and programme-carrying signals are technologically specific. Mobile-communication protocols, combinations of wired and wireless communication systems and converged communication platforms fall outside their realm. Webcasting and interactive on-demand systems¹⁹⁰ cannot be

182 Smith *Internet Law and Regulation* para. 2-065.

183 Ibid.

184 Ibid. See also *R v Fellows; R v Arnold* [1997] 2 All ER 548 in which the court held that the actions of a defendant who merely provided passwords to enable third parties to view archived material effectively amounted to "showing" the images to third parties.

185 Ministry of Economic Development "Digital technology and the Copyright Act 1994 – Position paper" www.med.govt.nz/templates/MultipageDocumentPage_872.aspx (accessed July 2008).

186 See ss 1, 6, 10 and 11 of the Copyright Act 98 of 1978.

187 S 1 defines a programme-carrying signal as "a signal embodying a program which is emitted and passes through a satellite".

188 S 1 of the Copyright Act defines a broadcast as "a telecommunication service of transmissions consisting of sounds, images, signs or signals which –

(a) takes place by means of electro-magnetic waves of frequencies of lower than 3 000 GHz transmitted in space without an artificial conductor; and

(b) is intended for reception by the public or sections of the public, and includes the emitting of programme-carrying signals to a satellite".

189 See Dean *Handbook of South African Copyright Law* 1-12.

190 So-called "push" and "pull" technologies respectively.

chara
fore a
to the

An
Copy
missio
may l
follow

Wit
1-10
sha
wo
wo
at a
Th
It i
cor
Tre
pre
Th
able
man

8.4.

Tech
the l
incre

191

192

193

194

195

196

characterised as relying on either broadcasts or programme-carrying signals. Therefore an exclusive right had to be devised to provide for the communication of works to the public over the Internet.¹⁹¹

A new right of "communication to the public" was created in article 8 of the WIPO Copyright Treaty (WCT), granting copyright owners the right to control the transmission of their copyright works over the Internet. This broad communication right may be applied to a diverse range of communication techniques.¹⁹² Article 8 reads as follows:

Without prejudice to the provisions of Articles 11(1)(ii), 11*bis*(1)(i) and (ii), 11*ter*(1)(ii), 14(1)(ii) and 14*bis*(1) of the Berne Convention, authors of literary and artistic works shall enjoy the exclusive right of authorizing any communication to the public of their works, by wire or wireless means, including the making available to the public of their works in such a way that members of the public may access these works from a place and at a time individually chosen by them.

The agreed statement concerning article 8 of the WCT reads as follows:

It is understood that the mere provision of physical facilities for enabling or making a communication does not in itself amount to communication within the meaning of this Treaty or the Berne Convention.¹⁹³ It is further understood that nothing in Article 8 precludes a Contracting Party from applying Article 11*bis*(2).¹⁹⁴

The new communication right specifically includes the right to make works available to the public in such a way that members of the public may access them on demand interactively – that is, from different places at different times, as they choose.¹⁹⁵

8.4.2 Enforcement and management of rights¹⁹⁶

Technological protection measures have begun to play a leading role in addressing the heightened threat of piracy of works protected by copyright, and authors are increasingly taking advantage of technology to protect their intellectual property.

191 Ministry of Economic Development "Digital technology and the Copyright Act 1994 – Position paper" www.med.govt.nz/templates/MultipageDocumentPage_872.aspx (accessed July 2008).

192 Including, for example, the sending, retrieving and distributing of copyright works to the public through diverse applications, ranging from e-mail to peer-to-peer file-sharing and other digital forms of communication.

193 The WIPO Copyright Treaty and the Berne Convention for the Protection of Literary and Artistic Works may be accessed through www.wipo.int.

194 The agreed statements of the Diplomatic Conference that adopted the Treaty, the WIPO Diplomatic Conference on Certain Copyright and Neighboring Rights Questions, concerning certain provisions of the WCT are reproduced in endnotes below the text of the WCT, which is available at www.wipo.int/treaties/en/ip/wct/pdf/trtdocs_wo033.pdf (accessed 10 July 2008).

195 An "interactive service" is one that enables a member of the public to receive a transmission of a programme especially created for him or her or, on request, to receive a transmission of a particular sound recording, whether as part of a programme or not, which is selected by or on behalf of the recipient. Each individual website needs to be analysed to ascertain whether it may be "interactive" in this context. For example, can the listener visit the site and select the sound recordings heard during the visit? If so, how much control does the individual listener have over what is heard and when it is heard? One type of "interactive service" enables a member of the public to receive a transmission of a programme especially created for him or her, even though it was created at the request of a third party.

196 This section (para. 8.4.2) is drawn in part from Pistorius "Developing countries and copyright in the Information Age: The functional equivalent implementation of the WCT" 2006 (2) *Potchefstroom Electronic LJ* 1–27.

Technological protection measures include anti-copy devices, access control, electronic envelopes, proprietary viewer software, encryption, passwords, watermarking, fingerprinting (user-authentication), metering, and monitoring of usage, and remuneration systems.¹⁹⁷

8.4.2.1 Rights management

The WCT also protects "rights management information", providing legal support to "rights management systems". Article 12 of the WCT provides as follows:

(1) Contracting Parties shall provide adequate and effective legal remedies against any person knowingly performing any of the following acts knowing, or with respect to civil remedies having reasonable grounds to know, that it will induce, enable, facilitate or conceal an infringement of any right covered by this Treaty or the Berne Convention:

- (i) to remove or alter any electronic rights management information without authority;
- (ii) to distribute, import for distribution, broadcast or communicate to the public, without authority, works or copies of works knowing that electronic rights management information has been removed or altered without authority.

(2) As used in this Article, "rights management information" means information which identifies the work, the author of the work, the owner of any right in the work, or information about the terms and conditions of use of the work, and any numbers or codes that represent such information, when any of these items of information is attached to a copy of a work or appears in connection with the communication of a work to the public.

Rights-management systems are based on electronic data attached to the works and objects of related rights. The data may identify the author or performer, the holder of the rights and the work or object itself, and may further describe the terms and conditions for its use. Member States are obliged to provide adequate and effective legal remedies against the deliberate removal or alteration of such information and against the dissemination of works, performances or phonograms from which such information has been removed or altered, when these acts are performed in the knowledge that they will induce, enable, facilitate or conceal infringement.¹⁹⁸

Article 11 of the WCT provides for protection against the circumvention of technological protection measures applied to works protected by copyright. It requires contracting parties to "provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures" that are not authorised by the authors concerned or permitted by law.

The WCT focuses on the acts of infringement rather than on the devices facilitating infringement. It is in line with the scope of copyright protection and preserves the copyright balance.¹⁹⁹

197 Albert *Intellectual Property Law in Cyberspace* 265-271; Khaw "Of encryption and devices: The anti-circumvention provision of the Malaysian Copyright Act 1987" [2005] *EIPR* 55-64; Norman *Copyright in Further and Higher Education Libraries* 45. See Price and Verhulst *Self-Regulation and the Internet* 146-148 on the use of technology to regulate content and control access.

198 See WIPO "Intellectual property on the Internet: A survey of issues" WIPO/INT/02 (December 2002) 35-36, www.wipo.int/export/sites/www/copyright/en/e-commerce/doc/survey.doc (accessed August 2008).

199 Wiese "Anti-circumvention laws" 2002 (4) *Communications Law* 150. Copyright balance is the balance between the private interests of the copyright owner and the public interest. Private interests include

8.4.2.2 Anti-circumvention

South African national legislation, in conformity with the treaties, proscribes the circumvention of technologies designed to protect copyright works, as does legislation in the United States²⁰⁰ and the European Union.²⁰¹ The EU Copyright Directive obliges member States to provide adequate legal protection against dealing in products or services that are primarily designed for – and have limited use other than – circumvention.

The United States' Digital Millennium Copyright Act (DMCA) takes the principles of the WCT a step further: both circumvention-enabling acts and circumvention-enabling devices are prohibited.²⁰² Section 1201(a)(1)(A) of the DMCA provides that no person shall circumvent a technological measure that effectively controls access to a copyright work. A technological measure is defined as a measure which effectively controls access to a work if that measure, in the ordinary course of its operation, requires the application of information, or a process or a treatment, with the authority of the copyright owner, to gain access to the work.²⁰³

To circumvent a technological measure means to unscramble a scrambled work, to decrypt an encrypted work, or otherwise to avoid, bypass, remove, deactivate or impair a technological measure, without the authority of the copyright owner.²⁰⁴ The DMCA also prohibits the manufacturing, importing, offering to the public and provision of or trafficking in any technology, product, service, device, or component, or part thereof, that is primarily designed or produced for the purpose of circumventing a technological measure and which has only a limited commercially significant purpose or use other than such circumvention or is marketed for use in circumventing a technological measure.²⁰⁵

In the first criminal prosecution for trafficking in violation of the DMCA, a Russian computer programmer, Dimitri Sklyarov, was arrested in July 2001 in Las Vegas where he was attending a computer hackers' convention. In *United States of America v Elcom Ltd a/k/a ElcomSoft Co Ltd and Dmitry Sklyarov*,²⁰⁶ the defendants were charged under the DMCA for circumvention of the copyright protection of electronic book software sold by Adobe Systems. Elcomsoft²⁰⁷ developed and sold a product known as

the economic and moral rights of the author. Public interests protect freedom of speech, news, reporting, academic research, criticism, and quoting from the protected work.

200 See the Digital Millennium Copyright Act of 1998 105 Pub L No. 304 112 Stat. 2660 (DMCA). See also the Congressional Research Service Report for Congress "Digital Millennium Copyright Act, P.L. 105-304: Summary and analysis" 10 November 1998; and the US Copyright Office Summary "The Digital Millennium Copyright Act of 1998" December 1998.

201 See Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the Harmonisation of Certain Aspects of Copyright Law in the Information Society (the Copyright Directive). See also McEvedy "The DMCA and the E-Commerce Directive" [2001] *EIPR* 65–73.

202 Correa "Fair use in the digital era" 2002 *International Review of Industrial Property and Copyright Law* 580.

203 § 1201(a)(3)(B).

204 § 1201(a)(3)(A).

205 § 1201(a)(2)(A)–(C).

206 203 F Supp 2d 1111 (ND Cal 2002); preliminary denial of defendant's motion to dismiss, 203 F Supp 2d 1111.

207 The program was developed by Sklyarov and marketed by Elcomsoft Company through its website hosted in Moscow.

the Advanced eBook Processor, a software program that allows users to remove use restrictions from Adobe Acrobat PDF files and files formatted for the Adobe eBook Reader. The program allows a purchaser of an eBook Reader to convert the format to one that is readable in any PDF viewer without the use restrictions imposed by the publisher. The conversion allows ebooks to be read on another computer, for copies and back-up copies to be made and for ebooks to be printed in paper form.²⁰⁸ The defendants were indicted for alleged violations of section 1201(b)(1)(A) and (C) of the DMCA for allegedly trafficking in and marketing the Advanced eBook Processor software.²⁰⁹ The defendants argued that their circumvention software falls within the "fair use" provisions because lawful users of content may make back-up copies.²¹⁰

The court held that it is not unlawful to circumvent technological measures, for the purpose of engaging in fair use, but that it is unlawful to traffic in tools that allow fair-use circumvention.²¹¹ Making a back-up copy of an ebook for personal non-commercial use would be upheld as a non-infringing fair use. While the right to make a back-up copy of computer programs is a statutory right expressly enacted by Congress in section 117(a) of the Copyright Act, there is as yet no generally recognised right to make a copy of a protected work, regardless of its format, for personal non-commercial use. There has certainly been no generally recognised First Amendment right²¹² to make back-up copies of electronic works.²¹³ The defendants were acquitted.

In another case brought under the DMCA, *Universal City Studios Inc et al v Reimerdes et al*,²¹⁴ the plaintiffs sought an injunction prohibiting the posting of DeCSS, a program that decrypted the CSS algorithm and allowed users to avoid paying the CSS licensing fee. DeCSS enabled users to decrypt DVDs encrypted with CSS, thus rendering such DVDs compatible with Linux.²¹⁵ The plaintiffs presented evidence that each motion-picture DVD includes a content-scrambling system (CSS) that permits the film to be played, but not copied, by DVD players that incorporate the plaintiffs' licensed decryption technology.²¹⁶ The defendant provided a link on his website that allowed an individual to download DeCSS, a program that allows users to circumvent

208 203 F Supp 2d 1119–1120.

209 In December 2001, the US Attorney's Office announced that, in exchange for Sklyarov's co-operation in its suit against Elcomsoft, the US government would drop charges against him.

210 See the discussion of the case in Craig and Graham "Rights management in the digital world" 2003 *Computer Law and Security Report* 361.

211 203 F Supp 2d 1125.

212 The First Amendment to the Constitution of the United States provides that Congress shall not make a law that abridges the freedom of speech.

213 Ibid. 1135. Ginsburg "Legal protection of technological measures protecting works of authorship: International obligations and the US experience" 23–25 notes that American courts have expressed some scepticism about whether fair use was constitutionally required. She notes that the courts have uniformly spurned the "extravagant claim" that § 1201 "unconstitutionally eliminates fair use" even though fair use plays an important, First-Amendment-friendly role in balancing the rights of copyright owners against subsequent speakers.

214 111 F Supp 2d 249 (SDNY 2000), aff'd *Universal City Studios Inc v Corley* 273 F 3d 429 (2d Cir 2001).

215 Linux is an example of open-source software, being a freely distributed version of the UNIX operating system that runs on various hardware platforms. See the Linux Journal at www.linuxjournal.com.

216 *Universal City Studios Inc et al v Reimerdes et al* 111 F Supp 2d 249 (SDNY 2000), aff'd *Universal City Studios Inc v Corley* 273 F 3d 429 (2d Cir 2001).

the CSS protective system and to view or copy a motion picture from a DVD, regardless of whether the user has a DVD player with the licensed technology.²¹⁷

The defendant proudly trumpeted his actions as “electronic civil disobedience”.²¹⁸ The court found that the defendant had violated 17 USC § 1201(a)(2)(A) in that DeCSS had only one purpose: to decrypt CSS.²¹⁹ The court rejected the defendant’s argument that an injunction would prevent fair use of the decrypted material.

In *Universal City Studios Inc v Corley*,²²⁰ the decryption of films in digital versatile discs (DVDs) was at issue. The court held that section 1201(a)(1) referred to the act of circumvention itself. Fair use of a work will not be affected by the anti-circumvention provisions provided that access to the work is authorised. The defendant argued that the technological protection measures unduly restricted fair use of the works. The court noted that, despite the protection measures, users could still copy the audio-visual works and that, in any event, fair use has never guaranteed a user’s access to copyright material in such a specific format as to enable him or her to copy the work by means of his or her preferred copying technique.

In *Chamberlain Group Inc v Skylink Technologies Inc*²²¹ the plaintiff developed a rolling code system for the remote controls of automated garage doors and gates.²²² The defendant developed a universal remote through reverse engineering.²²³ The plaintiff argued that the reverse-engineered system constitutes a violation of the DMCA as the defendant’s universal remotes circumvent “technical measures” initiated in the original remotes.

The court examined the relationship between access and copyright protection.²²⁴ It held that a meaningful reading of the statute required a “reasonable relationship” between access and copyright protection otherwise granted to owners:²²⁵

We conclude that 17 USC § 1201 prohibits only forms of access that bear a reasonable relationship to the protections that the Copyright Act otherwise affords copyright owners. While such a rule of reason may create some uncertainty and consume some judicial resources, it is the only meaningful reading of the statute.²²⁶

The court held that a plaintiff alleging a violation of section 1201(a)(2) must prove:

(1) ownership of a valid *copyright* on a work, (2) effectively controlled by a *technological measure*, which has been circumvented, (3) that third parties can now *access* (4) *without authorization*, in a manner that (5) *infringes or facilitates infringing a right protected by the Copyright Act*, because of a product that (6) the defendant either (i) *designed or produced primarily for circumvention*; (ii) *made available despite only limited commercial significance other than circumvention*; or (iii) *marketed for use in circumvention of the controlling technological measure*.²²⁷

²¹⁷ *Ibid.*

²¹⁸ *Ibid.* 303, 312.

²¹⁹ *Ibid.* 319, 346.

²²⁰ 273 F 3d 429 (2nd Cir. 2001).

²²¹ 381 F 3d 1178 (Fed. Cir. 2004).

²²² *Ibid.* 1183. This system prevented would-be intruders from recording and playing back door codes, as these codes were generated anew each time the remote was used.

²²³ *Ibid.* 1184–1185.

²²⁴ *Ibid.* 1197.

²²⁵ *Ibid.* 1202–1203.

²²⁶ *Ibid.*

²²⁷ *Ibid.* 1203 (court’s emphasis).

A plaintiff incapable of establishing any one of elements (1) to (5) will fail to prove a *prima facie* case. A plaintiff capable of proving elements (1) to (5) need prove only one of (6) (i), (ii), or (iii) to shift the burden of proof to the defendant.

The court held that Chamberlain failed to show not only the requisite lack of authorisation but also the necessary fifth element of its claim, namely the critical nexus between access and protection.²²⁸ Chamberlain neither alleged copyright infringement nor explained how the access provided by the defendant's universal remotes facilitates the infringement of any right protected by the DMCA. This connection is critical to sustaining a cause of action under the Act.²²⁹ The court affirmed the district court's²³⁰ summary judgment in favour of the defendant.²³¹

8.4.2.3 Enforcement and rights management in developing countries

Seven African countries have deposited their instruments of ratification or accession with the Director General of WIPO to join the WIPO Copyright Treaty (WCT): Botswana, Burkina Faso, Gabon, Guinea, Mali, Senegal and Togo.²³² Botswana acceded to the WCT in January 2005 after a review of its copyright law.²³³ The Botswana Copyright Act provides for the legal protection of technological protection measures and effective legal remedies against the circumvention of such measures.²³⁴

Although South Africa was one of the signatories to the WCT, and despite growing pressure from the US government, there is a reluctance to implement the WCT in South African copyright law.²³⁵ Policy-makers have noted that they will only implement the WCT in South African copyright law if it is shown to be to South Africa's advantage to do so and if the existing limitations and exceptions can be retained.²³⁶

228 *Chamberlain Group Inc v Skylink Technologies Inc* 381 F 3d 1178 (Fed. Cir. 2004) 1203.

229 *Ibid.*

230 Two district-court judgments preceded the Federal Circuit ruling. In the first action, *Chamberlain Group Inc v Skylink Technologies Inc* 292 F Supp 2d 1023 (ND Ill 2003), the district court for Northern Illinois denied Chamberlain's motion for summary judgment of its DMCA claims. In the second action, *Chamberlain Group Inc v Skylink Technologies Inc* 292 F Supp 2d 1040 (ND Ill 2003) the district court granted Skylink's motion for summary judgment against Chamberlain's claim of DMCA violations.

231 *Chamberlain Group Inc v Skylink Technologies Inc* 381 F 3d 1178 (Fed Cir 2004) 1204.

232 See www.wipo.int/edocs/notdocs/en/wct/treaty_wct_2.html and Nwauche "A development-orientated intellectual property regime for Africa" 2, www.coderisa.org/Links/conferences/general_assembly11/papers/nwauche.pdf (accessed April 2006).

233 See, for example, Notice 51 of the accession of Botswana to the WCT, 27 October 2004, www.wipo.int/edocs/notdocs/en/wct/treaty_wct_51.html (accessed August 2008). See also Botswana's Copyright and Neighbouring Rights Act, 2000 ("the Botswana Copyright Act").

234 See Nwauche "A development-orientated intellectual property regime for Africa" 2.

235 South Africa signed the WCT on 12 December 1997 but has not yet deposited an instrument of ratification with the Director-General of WIPO. See the list of signatories to the WCT at www.wipo.int/edocs/notdocs/en/wct/treaty_wct_2.html (accessed August 2008).

236 PASA Copyright Committee Final Copyright Report "PICC report on intellectual property rights in the print industries sector" May 2004, 31, 75–80 www.access.org.za/PICC_Report.pdf (accessed January 2007) expresses concern with the delays in implementing the WIPO Copyright Treaty in South African copyright law. Netshitenzhe, Director of Commercial Law and Policy, is of the view that treaties such as the WCT and WIPO Performances and Phonograms Treaty (WPPT), if they are acceded to, should not negate the exceptions on "fair use" reservations (<http://ibtafrinfo.com/accessof/files/netshitenzhe.ppt>, 25 January 2005 (accessed January 2007)).

This is in line with the recommendation of the Commission on Intellectual Property Rights that developing countries not be pressurised into accepting higher intellectual-property standards without a "serious and objective" assessment of their development impact.²³⁷

However, in South Africa's efforts to fight cybercrime, the WCT principles were partially introduced into South African law. Section 86 of the Electronic Communications and Transactions Act²³⁸ (the ECT Act) constructs a new cyber-offence relating to the unauthorised access to, interception of or interference with data. Section 86 is at its core an anti-circumvention prohibition; as such it is relevant to all data, all electronic representations of information.²³⁹

Access is defined in section 85 of the ECT Act as including "the actions of a person who, after taking note of any data, becomes aware of the fact that he or she is not authorised to access that data and still continues to access that data". This definition is not useful because it defines the concept of "access" with reference to "access" (which is what is supposed to be defined)! Furthermore, it is unclear at what point a person is required to become aware of the fact that his or her access is unauthorised but nevertheless continue to attempt to gain access for his or her actions to fall within the ambit of the prohibition of section 86.²⁴⁰ A person who intentionally accesses or intercepts any data without authority or permission to do so is guilty of an offence in terms of section 86(1).²⁴¹

Section 86(2) provides that "A person who intentionally and without authority to do so, interferes with data in a way which causes such data to be modified, destroyed or otherwise rendered ineffective, is guilty of an offence". The specific prohibition reads as follows:

A person who unlawfully produces, sells, offers to sell, procures for use, designs, adapts for use, distributes or possesses any device, including a computer program or a component, which is designed primarily to overcome security measures for the protection of data, or performs any of those acts with regard to a password, access code or any other similar kind of data with the intent to unlawfully utilise such item to contravene this section, is guilty of an offence.²⁴²

Section 86(3) of the ECT Act is significant because in it South African law for the first time provides for the criminal offence of hacking. The Act outlaws the production, distribution and use of devices and applications designed primarily for the

²³⁷ IPR Commission "Integrating intellectual property rights and development".

²³⁸ Act 25 of 2002.

²³⁹ See Pistorius "Developing countries and copyright in the Information Age" 2006 (2) *Potchefstroom Electronic LJ* 6-7.

²⁴⁰ Compare, for example, the definition of "access" in s 101A of the Customs and Excise Act 91 of 1964: "gaining entry into, instructing or communicating with the logical, arithmetical or memory function resources of a computer, computer system or computer network".

²⁴¹ The provisions of s 86(1) are subject to the repealed Interception and Monitoring Prohibition Act 127 of 1992. The ambit of this offence is unclear. Can access as defined above ever be authorised? What is the prohibited action: access or interception, and what are the consequences of the prohibited action? Interception should be described or defined with reference to the non-public transmission of computer data to or from a computer system and the electromagnetic emissions from a computer system carrying data. See Altini "Cyber crime" www.cliffedekker.co.za (accessed March 2006).

²⁴² S 86(3) of the ECT Act.

purpose of overcoming data-protection security measures. However, this subsection ought to refer to the use of devices with intent to commit any offence established by the preceding sections, namely access, interception or system interference. Reference to the contravention of "this section" is inadequate.²⁴³

Section 86(4) provides that "A person who utilises any device or computer program mentioned in subsection (3) in order to unlawfully overcome security measures designed to protect such data of access thereto, is guilty of an offence".²⁴⁴

8.4.3 Liability for infringement

8.4.3.1 Introduction²⁴⁵

The liability of online service providers (OSPs) for infringement of intellectual-property rights remains controversial in intellectual-property law. Electronic commerce has, of course, compounded the issue of OSP liability, which is no longer confined to the infringement of intellectual-property rights but extends to all types of unlawful action.²⁴⁶

When the liability of a particular OSP is to be determined, one should remember that the law of delict and copyright law impose liability for acts or omissions in a specific instance. Contributory, vicarious, and inducement liabilities may arise. Vicarious liability is based on the same legal principle in the law of tort that holds an employer liable for the actions of its employees.²⁴⁷ Inducement liability was recently introduced in American copyright-infringement cases. The concept of inducement liability is applied to those who intentionally induce violation of copyright.²⁴⁸ Hence, an OSP's liability will depend on the role it plays in a particular transaction. If, on the one hand, an OSP makes unauthorised reproductions of a protected work (for example, for technical reasons such as caching) it may be liable for direct infringement of copyright; if, on the other hand, it merely transmits or facilitates access to copyright-infringing material, it may be liable for "contributory infringement" at common law.

8.4.3.2 Cases on liability for infringement

In countries such as the United States of America, liability for copyright infringement has been extended by the notion of "contributory infringement". In *Sony Corp v Universal City Studios Inc*,²⁴⁹ the US Supreme Court stated that

the absence of such express language in the copyright statute does not preclude the imposition of liability for copyright infringement on certain parties who have not themselves

²⁴³ See Altini "Cyber crime".

²⁴⁴ As noted under the discussion of s 86(3) above, this section ought to refer to the basic offence of illegal access, interception or system interference.

²⁴⁵ This discussion is partly based on Visser and Pistorius "Select intellectual property implications of electronic commerce and global information networks: Copyright, trade marks, and databases" www.ecomm-debate.co.za.

²⁴⁶ See Chapter 9, below, on data protection.

²⁴⁷ Lohmann "What peer-to-peer developers need to know about copyright law" January 2006, http://w2.elf.org/IP/P2P/p2p_copyright_wp_v5.pdf (accessed July 2008).

²⁴⁸ See Daly "Life after *Grokster*: Analysis of US and European approaches to file sharing" [2007] *EIPR* 320.

²⁴⁹ 464 US 417 (1984).

engaged in the infringing activity. For . . . the concept of contributory infringement is merely a species of the broader problem of identifying the circumstances in which it is just to hold one individual accountable for the actions of another.²⁵⁰

In *Playboy Enterprises Inc v Webbworld Inc d/b/a Neptics.com, Bentley Ives, James Gurkin, and Benjamin Ellis*²⁵¹ the court held that

Infringement occurs when a defendant violates one of the exclusive rights of the copyright holder. 17 U.S.C. Section 501(a). These rights include the right to reproduce the copyrighted work, the right to prepare derivative works, the right to distribute copies to the public, and the right to publicly display the images in issue were stored in defendants' 'web server' computers and available for downloading by subscribers. The images retrieved by Mr. Snyder from the Neptic's website are virtually identical to those images which previously appeared in one of Playboy's copyrighted magazines.²⁵²

The court referred to *Religious Technology Center v Netcom On-Line Communication Services Inc*,²⁵³ in which Netcom, an access provider, was sued for direct copyright infringement because it had provided Internet access to a private bulletin-board system in which infringing works were placed.²⁵⁴ The court in that case held that Netcom was not liable for copyright infringement, because "Netcom [did] not create or control the content of the information available to its subscribers; it merely [provided] access to the Internet, whose content is controlled by no single entity".²⁵⁵

The court in the *Playboy Enterprises* case rejected the defendant's argument that Neptics.com provided the same services as Netcom, in that it had acted as a mere conduit for information, finding that the

defendants' reliance on RTC is misplaced. As plaintiff points out, a Neptics subscriber, unlike a Netcom customer, cannot gain access to the Internet using Neptics. The Neptics subscriber must first get onto the Internet using a separate IAP, such as Netcom. Only after gaining access to the Internet can the subscriber connect with the Neptics website. Where Netcom gets paid for providing Internet access for its customers, Neptics gets paid for selling the images it stores on its computers. Neptics' function is not to provide Internet access, but rather to provide its subscribers with adult images which are contained in the storage devices of its computers.

Webbworld also argues that it cannot be held liable for copyright infringement because it has no control over the persons who are posting the infringing images to the adult newsgroups from which Neptics obtains its material. While this may be true, Neptics surely has control over the images it chooses to sell on the Neptics' website. Even the absence of the ability to exercise such control, however, is no defence to liability. If a business cannot be operated within the bounds of the Copyright Act, then perhaps the question of its legitimate existence needs to be addressed.²⁵⁶

²⁵⁰ Ibid. 435.

²⁵¹ Case no. 3-96-CV-3222-DES, 6-8. Extracts of the judgment are available at www.loundy.com/CASES/PEI_v_Webbworld.html (accessed October 2007).

²⁵² Ibid. 6.

²⁵³ 907 F Supp 1361 (ND Cal 1995).

²⁵⁴ Ibid. 1365-1368.

²⁵⁵ Ibid. 1372.

²⁵⁶ *Playboy Enterprises Inc v Webbworld, Inc d/b/a Neptics.com, Bentley Ives, James Gurkin, and Benjamin Ellis* case no. 3-96-CV-3222-DES, 9-11. See www.loundy.com/CASES/PEI_v_Webbworld.html (accessed 10 October 2007).

In *Playboy Enterprises Inc v George Frena d/b/a Techs Warehouse BBS Systems and Consulting, and Mark Dyess*²⁵⁷ the defendant, George Frena, operated a bulletin-board system called Techs Warehouse BBS. The bulletin-board system distributed unauthorised copies of photographs. The plaintiff, the copyright owner of the photographs, sued the defendant for copyright infringement. The court held as follows:

Public distribution of a copyrighted work is a right reserved to the copyright owner, and usurpation of that right constitutes infringement. See *Cable/Home Communication Corp. v Network Productions, Inc.*, 902 F.2d 829, 843 (11th Cir. 1990). PEI's right under 17 U.S.C. Section 106(3) to distribute copies to the public has been implicated by Defendant Frena. Section 106(3) grants the copyright owner "the exclusive right to sell, give away, rent or lend any material embodiment of his work." Furthermore, the "display" rights of PEI have been infringed upon by Defendant Frena. See 17 U.S.C. Section 106(5). The concept of display is broad. See 17 U.S.C. Section 101. It covers "the projection of an image on a screen or other surface by any method, the transmission of an image by electronic or other means, and the showing of an image on a cathode ray tube, or similar viewing apparatus connected with any sort of information storage and retrieval system." The display right precludes unauthorized transmission of the display from one place to another, for example, by a computer system. "Display" covers any showing of a "copy" of the work, "either directly or by means of a film, slide, television image or any other device or process."²⁵⁸ However, in order to be copyright infringement, the display must be public. A "public display" is a display "at a place open to the public." There is irrefutable evidence of direct copyright infringement in this case. It does not matter that Defendant Frena may have been unaware of the copyright infringement. Intent to infringe is not needed to find copyright infringement.²⁵⁹

File-sharing technology and copyright infringement were the subjects of the well-known case *A&M Records Inc v Napster Inc.*²⁶⁰ The case concerned the "sharing" of MP3 files.²⁶¹ The court explained MP3 technology thus:

Napster facilitates the transmission of MP3 files between and among its users. Through a process commonly called "peer-to-peer" file sharing, Napster allows its users to: (1) make MP3 music files stored on individual computer hard drives available for copying by other Napster users; (2) search for MP3 music files stored on other users' computers; and (3) transfer exact copies of the contents of other users' MP3 files from one computer to another via the Internet. These functions are made possible by Napster's MusicShare software, available free of charge from Napster's Internet site, and Napster's network servers and server-side software. Napster provides technical support for the indexing and searching of MP3 files, as well as for its other functions, including a "chat room," where users can meet to discuss music, and a directory where participating artists can provide information about their music.²⁶²

Plaintiffs claim Napster users are engaged in the wholesale reproduction and distribution of copyrighted works, all constituting direct infringement. The district court agreed. We note that the district court's conclusion that plaintiffs have presented a *prima facie*

257 839 F Supp 1552 (case no. 93-489-Civ-J-20), available at www.phillipsnizer.com/Internetlibrary.htm (accessed 10 October 2007).

258 See 17 USC § 101.

259 *Ibid.*

260 239 F 3d 1004 (2001).

261 MP3 is an abbreviation of "Motion Picture Experts Group 1, Audio Layer 3", an audio and data compression format capable of compressing digital audio files to one twelfth of their original size.

262 239 F 3d 1004 (2001) 1011.

case of direct infringement by Napster users is not presently appealed by Napster. We only need briefly address the threshold requirements.²⁶³

The court concluded that Napster's activities amounted to copyright infringement. Uploading of the musical works constituted an infringement of the plaintiff's right to distribute its works and the downloading of those works constituted unauthorised reproduction of them.²⁶⁴ These infringing actions were committed by users of Napster's services. The question then arose whether Napster could be held liable at all for the infringements. In referring to contributory infringement the court held that "Traditionally, 'one who, with knowledge of the infringing activity induces, causes or materially contributes to the infringing conduct of another, may be held liable as a "contributory" infringer'".²⁶⁵

The court then discussed the elements of knowledge and material contribution as follows. It noted that contributory liability requires that the secondary infringer "know or have reason to know" of direct infringement and held that Napster had knowledge, both actual and constructive, of direct infringement.²⁶⁶ Napster claimed that it was nevertheless protected from contributory liability by the teaching of *Sony Corp v Universal City Studios Inc*,²⁶⁷ but the court held that Napster's actual specific knowledge of direct infringement rendered the *Sony* ruling of limited assistance to Napster. The court noted that a clear distinction must be made between the architecture of the Napster system and Napster's conduct in relation to the operational capacity of the system.²⁶⁸ The *Sony* court declined to impute the requisite level of knowledge where the defendants had made and sold equipment capable of both infringing and "substantial non-infringing uses".²⁶⁹

The same court noted that when a computer-system operator learns of specific infringing material available on his or her system and fails to purge it from the system, he or she knows of and contributes to direct infringement. Conversely, absent any specific information which identifies infringing activity, a computer-system operator cannot be liable for contributory infringement merely because the structure of the system allows for the exchange of copyrighted material.²⁷⁰

As far as the requirement of material contribution is concerned, the court held that Napster materially contributed to the infringing activity.²⁷¹ As a result of this decision, Napster ceased its free service. Copyright owners are now paid royalties for the distribution of their musical works.

Inducement liability may follow if the infringer made statements or took other active steps to encourage infringing uses.²⁷² Affirmative steps include instructing users on how to use the infringing product, including promotional strategies and customer

²⁶³ Ibid. 1013.

²⁶⁴ Ibid. 1014.

²⁶⁵ Ibid. 1019.

²⁶⁶ Ibid. 1020.

²⁶⁷ 464 US 417 (1984).

²⁶⁸ *A&M Records Inc v Napster Inc* 239 F 3d 1004 (2001) 1020.

²⁶⁹ *Sony Corp v Universal City Studios Inc* 464 US 417 (1984) 442.

²⁷⁰ Ibid. 436, 442-443; *A&M Records Inc v Napster Inc* 239 F 3d 1004 (2001) 1021.

²⁷¹ *A&M Records Inc v Napster Inc* 239 F 3d 1004 (2001) 1022.

²⁷² Heymann "Inducement as contributory infringement: *Metro-Goldwyn-Mayer Inc. v Grokster, Ltd*" 2006 *International Review of Industrial Property and Copyright Law* 31-46.

support related to infringing activities or the use of an infringing work or product.²⁷³ In *Metro-Goldwyn-Mayer Studios Inc et al v Grokster Ltd et al*²⁷⁴ the court held that "One who distributes a device with the object of promoting its use to infringe copyright, as shown by clear expression or other affirmative steps taken to foster infringement, ... is liable for the resulting acts of infringement by third parties using the device".

Although the principle of "contributory infringement" has not been established in any reported decision on South African copyright law, there are indications that our courts may be prepared to accept it.²⁷⁵

Were one to accept copyright infringement as a form of delictual liability, the liability of someone who assists, aids or abets the commission of that infringement would be determined according to the broad principles of the Aquilian action. In *McKenzie v Van der Merwe*, the court said that "under the *lex Aquilia* not only the persons who actually took part in the commission of a delict were held liable for the damage caused, but also those who assisted them in any way".²⁷⁶ The remedies available, then, to a successful plaintiff in an Aquilian action for "contributory infringement" are damages and injunctive relief (an interdict). These remedies are also available to a successful plaintiff in an action for direct infringement of copyright.²⁷⁷ Fault (knowledge in some form or other) is required for an award of damages only.²⁷⁸

8.4.3.3 Limitation of service-provider liability

A Introduction

The liability of online service providers (OSPs) for the infringement of intellectual-property rights remains controversial in intellectual-property law. Electronic commerce has, of course, compounded the issue of liability, which is no longer confined to infringement of intellectual-property rights, but extends to all types of unlawful action.²⁷⁹

273 Ibid. 44; Lohmann "What peer-to-peer developers need to know about copyright law", January 2006, http://w2.eff.org/IP/P2P/p2p_copyright_wp_v5.pdf (accessed July 2008); Daly "Life after *Grokster*" [2007] *EIPR* 320.

274 545 US 125 (2005) available at www.supremecourtus.gov/opinions/04pdf/04-480.pdf.

275 See *Atari Inc v JB Radio Parts (Pty) Ltd* (unreported TPD case no. 17419/83). See also the discussion in *Dean Handbook of South African Copyright Law* para. 8.25, page 1-50; *Bosal Africa (Pty) Ltd v Graphnet (Pty) Ltd and Another* 1985 (4) SA 882 (C) 893 (claim dismissed for lack of proof of knowledge of infringement).

276 *McKenzie v Van der Merwe* 1917 AD 41 51. This principle was applied in a trade-mark context in *Omega, Louis Brandt et Frere SA and Another v African Textile Distributors* 1982 (1) SA 951 (T) 954, 957.

277 See s 24(1) of the Copyright Act 98 of 1978.

278 At common law, see *Hawker v Life Offices Association of South Africa and Another* 1987 (3) SA 777 (C); *R & I Laboratories (Pty) Ltd v Beauty Without Cruelty International (South African Branch)* 1990 (3) SA 746 (C) 754-755; *Long John International Ltd v Stellenbosch Wine Trust (Pty) Ltd and Others* 1990 (4) SA 136 (D) 143. For statutory copyright infringement, see s 24(2) of the Copyright Act 98 of 1978. The principle that fault is required only when damages alone are awarded is in line with art. 45(1) of the TRIPS Agreement which requires that "[J]udicial authorities ... have the authority to order the infringer to pay the right holder damages adequate to compensate for the injury the right holder has suffered because of an infringement of that person's intellectual property right by an infringer who knowingly, or with reasonable grounds to know, engaged in infringing activity".

279 See Chapter 6, above, on e-commerce for further comment on this point.

ringing work or product.²⁷⁵ The court held that "One who uses a device to infringe copyright, as to foster infringement, ... is using the device".

as not been established in the case, there are indications that our courts are

delictual liability, the liability for infringement would be a delictual action. In *McKenzie v Van der Merwe* not only the persons who are liable for the damage are liable for the damage, but also the remedies available, then, for contributory infringement are also available to a plaintiff. Fault (knowledge) is also available only.²⁷⁸

infringement of intellectual property law. Electronic commerce is no longer confined to all types of unlawful

under copyright law", January 2008); Daly "Life after

1/04-480.pdf.

3). See also the discussion in *Bosal Africa (Pty) Ltd v Grapnel* of proof of knowledge of

a trade-mark context in (1) SA 951 (T) 954, 957.

1987 (3) SA 777 (C); *African Branch* 1990 (3) SA 1000 (C); *Ltd and Others* 1990 (4) SA 1000 (C). The Copyright Act 98 of 1978 is in line with art. 45(1) of the authority to order for the injury the right of property right by an infringing activity".

When the liability of a particular OSP is to be determined, one should remember that the law of delict and copyright law impose liability for acts or omissions in specific instances. Hence, an OSP's liability depends on the role it plays in a particular transaction. If, for example, an OSP makes unauthorised reproductions of a protected work (by such technical means as caching, for example), it may be liable for direct infringement of copyright. However, if it merely transmits or facilitates access to copyright-infringing material, it may be liable for "contributory infringement" at common law. As mentioned in paragraph 8.4.3.2, the court in *McKenzie v Van der Merwe* was unequivocal in its view that liability in terms of the *lex Aquilia* is not limited to those "who actually took part in the commission of a delict" – liability extends "also [to] those who assisted them in any way".²⁸⁰ This principle has already been applied in the trade-mark context²⁸¹ and there are indications that our courts may be prepared to accept it in the copyright context.²⁸²

Given the technical role played by OSPs in the digital environment their potential liability for copyright infringement is obvious:²⁸³ the question is when is such infringement principal in nature and when is it accessory in nature? Although we restrict our consideration of the liability of OSPs to copyright infringement only, OSPs can, of course, also be liable in terms of the law regarding trade secrets, unfair competition, product liability, defamation, and the like.

The liability of OSPs is one of the most controversial issues in copyright law:

Should providers be treated as electronic publishers, and thus made directly liable for all the infringing gigabytes flowing through their servers? Or are they mere postmen of the Internet, common carriers exempt from all liability? As always in the realm of law, the answer lies somewhere in the middle.²⁸⁴

There are two models for limiting the liability of OSPs for copyright infringement. At the outset, note the following striking difference between the two: the directive in Europe opts for an all-embracing horizontal approach,²⁸⁵ whereas the American Digital Millennium Copyright Act deals with liability strictly within the framework of copyright law.

B The American model

In 1998 the United States Congress passed the Digital Millennium Copyright Act of 1998²⁸⁶ (DMCA). It was signed into law on 28 October 1998. The DMCA incorporates the Online Copyright Infringement Liability Limitation Act as Title II. The DMCA adds a new section 512 to Chapter 5 of the United States Copyright Act, which section deals with the enforcement of copyright. The DMCA limits the remedies an author may seek for copyright infringement by an OSP. The limitation of liability depends on the OSP's meeting certain threshold requirements and performing certain functions or acts.

²⁸⁰ 1917 AD 41 51.

²⁸¹ In *Omega, Louis Brandt et Frere SA and Another v African Textile Distributors* 1982 (1) SA 951 (T).

²⁸² In *Bosal Africa (Pty) Ltd v Grapnel (Pty) Ltd and Another* 1985 (4) SA 882 (C).

²⁸³ See, for example, the discussion paras 8.3.2 and 8.3.2.1 above on caching.

²⁸⁴ Koelman and Hugenholtz "Online service provider liability for copyright infringement".

²⁸⁵ Chapter 2 art. 4 of the Directive 2000/31/EC.

²⁸⁶ 105 Pub L No. 304 112 Stat 2660 (DMCA).

We shall begin with three general observations about the effect of the DMCA:

- ☐ Although the Act limits the liability of OSPs in certain circumstances, it does not impose new liabilities on them, or curtail or affect any existing defences available to them against a claim for copyright infringement.
- ☐ The Act does not limit the rights of authors to hold an OSP's users, subscribers or account holders liable for their acts of copyright infringement.
- ☐ The Act does not exempt OSPs from acts of copyright infringement that fall outside the ambit of the statute, or prevent authors from holding OSPs liable to compensate for damage caused by such acts.²⁸⁷

To qualify as a "service provider" an entity must offer the transmission, routing or connections "for digital online communications, between or among points specified by a user, of material of the user's choosing, without modification to the content of the material sent or received"²⁸⁸ or provide "online services or network access" or operate facilities for such services or access.²⁸⁹ The definition of "service provider" encompasses the basic functions and services needed by users to access the Internet and enjoy its benefits. It does not encompass all people using the Internet – only those who perform the functions that make the Internet available to users.

To avail itself of the liability limitations, a service provider must meet the following threshold requirements:

- ☐ it must adopt and "reasonably implement" a policy providing that it will terminate, in appropriate circumstances, the accounts or subscriptions of repeat copyright infringers²⁹⁰
- ☐ it must inform its subscribers and account holders of its policy²⁹¹
- ☐ it must accommodate, and not interfere with, "standard technical measures".²⁹²

The availability of remedies for copyright infringement by a service provider is limited if the service provider satisfies the three threshold requirements mentioned above and performs any combination of the following functions or acts:

- ☐ transmission, routing and provision of connections to infringing material (the "mere conduit" limitation)²⁹³
- ☐ system-caching²⁹⁴
- ☐ stores infringing material at the direction of a user (the "hosting" limitation)²⁹⁵ or
- ☐ linking or referring users to infringing material (the "linking" limitation).²⁹⁶

*"Mere conduit" limitation:*²⁹⁷ An author's exclusive right of reproduction may be infringed in the digital context by the unauthorised creation of copies of a work at

287 See Oktay and Wrenn "A look back at the notice-takedown provisions of the US Digital Millennium Copyright Act one year after enactment".

288 § 512(h)(1)(A).

289 § 512(h)(1)(B).

290 § 512(i)(1)(A).

291 *Ibid.*

292 § 512(i)(1)(B).

293 § 512(a).

294 § 512(b).

295 § 512(c).

296 § 512(d).

297 § 512(a).

various points while the work is in transit through a global information network. Therefore the DMCA limits the availability of remedies for copyright infringement against the service provider for "transmitting, routing, or providing connections for, material through a system or network controlled or operated by or for . . . [it,] or by reason of the intermediate or transient storage of that material in the course of such transmitting, routing, or providing connections".

To qualify for the mere-conduit limitation, the service provider must prove that

- ☐ the infringing transmission was initiated by or at the direction of a person other than the service provider
- ☐ the service provider's transmission, routing, provision of connections, or storage was carried out by "an automatic technical process without selection of the material by the service provider"²⁹⁸
- ☐ the recipients of the material were not selected by the service provider, except as an automatic response to someone else's request
- ☐ the service provider does not maintain any stored copy of the material on its system or network in a manner that would allow non-recipients to access the copy, or for longer than is necessary to allow the service provider to transmit, route or provide connections for the material, and
- ☐ the service provider did not modify the content while it was being transmitted through the provider's system or network.

*System-caching limitation:*²⁹⁹ The DMCA also limits the availability of remedies for copyright infringement against a service provider for the intermediate and temporary storage of material on its system or network. Such intermediate and temporary storage is commonly known as system-caching. To avail itself of this limitation, the service provider must prove that

- ☐ the allegedly infringing material at issue was uploaded or made available online by a person other than the service provider
- ☐ the material was transmitted to a third party at the request of that third party.
- ☐ the material was temporarily stored on the service provider's network "through an automatic technical process for the purpose of making the material available to users of the system or network"³⁰⁰ who request the material from the person who originally made the content available
- ☐ the service provider transmitted the material without modification to subsequent users
- ☐ in making the cached copy, the service provider complied with rules concerning the refreshing, reloading, or other updating of the material when specified by the person making the material available online in accordance with a generally accepted industry standard data communications protocol for the system or network through which that person makes the material available³⁰¹

²⁹⁸ § 512(a)(2).

²⁹⁹ § 512(b).

³⁰⁰ § 512(b)(1)(C).

³⁰¹ § 512(b)(2)(B). This requirement does not apply if the person who originally posted or transmitted the content uses these rules "to prevent or unreasonably impair the intermediate storage" that is the subject of the specific limitation.

- ☐ the service provider did not "interfere with the ability of technology associated with the material"³⁰² that returns information to the party that originally posted or transmitted it³⁰³
 - ☐ if the party that originally posted, transmitted or made available the infringing content made access to the material subject to payment of a fee or provision of a password or other similar requirements, the service provider permits access to the stored material "in significant part" only to users of its system or network who comply with those conditions³⁰⁴
 - ☐ when infringing material is posted without the authorisation of the copyright owner, the service provider responds "expeditiously to remove, or disable access to, the material . . . upon notification".³⁰⁵
- "Hosting" limitation:*³⁰⁶ If a service provider can prove four elements it may also enjoy a limitation of remedies for the storage of infringing material in its system or network at the instance of users:
- ☐ The service provider either lacks knowledge of the infringement or took appropriate measures once it has acquired such knowledge.³⁰⁷
 - ☐ When the service provider has the right and ability to control an infringing act, it did not receive "a benefit financially directly attributable to the infringing act".³⁰⁸
 - ☐ The service provider, upon receipt of proper notification, removed or disabled access to infringing material.
 - ☐ The service provider designated an agent to receive notification of claimed acts of infringement, made available contact information about the designated agent on its website and filed that information with the United States Copyright Office.
- "Linking" limitation:*³⁰⁹ The remedies available against a service provider for copyright infringement are limited when the provider links or refers users to infringing material or activity by using "information location tools, including a directory, index, reference, pointer, or hypertext link".³¹⁰ To qualify for this limitation, a service provider must satisfy the four requirements of the hosting limitation.

³⁰² § 512(b)(2)(C).

³⁰³ This requirement applies only if the technology does not significantly interfere with the performance of the service provider's system or network or with the intermediate storage of the material, is consistent with generally accepted industry-standard communications protocols and does not extract information from the service provider's system or network other than information that would otherwise have been available to the person who originally posted or transmitted the material, had subsequent users gained access to the material directly from him or her.

³⁰⁴ § 512(b)(2)(D).

³⁰⁵ This requirement applies only if the material was previously removed from the website from which it originated, access to that website has been disabled, or a court has ordered that the material be removed or access to it disabled, and the party giving notice includes a statement confirming the infringing nature of the material.

³⁰⁶ § 512(c).

³⁰⁷ This element is satisfied if the service provider does not have actual knowledge that material or an activity using the material is infringing; in the absence of actual knowledge, is not aware of facts or circumstances from which the infringing activity is apparent; or, upon learning of the infringement, acted expeditiously to remove or disable access to the offending material.

³⁰⁸ § 512(c)(1)(B).

³⁰⁹ § 512(d).

³¹⁰ Ibid.

In exchange for the four limitations discussed above, service providers agreed to a "notice and takedown" procedure in the DMCA. Generally, in terms of this procedure, when an author becomes aware of infringing material or infringing activity residing or taking place on a service provider's system or network, he or she may notify the service provider of the infringement and require it to remove or disable access to the infringing material or activity. This procedure includes several elements, notably designation of an agent, notification by the copyright owner and counter-notification by the alleged infringer.³¹¹

This procedure does not require service providers to evaluate the merits of a dispute. To minimise the likelihood that fraudulent notifications or counter-notifications will be filed, the DMCA states that complainants and alleged infringers may be held liable if they make material misrepresentations in a notification or counter-notification. Any person who "knowingly materially misrepresents"³¹² that material or activity is infringing or was removed or disabled by mistake or misidentification may be held liable for damages (including costs and attorneys' fees) in an action brought by an alleged infringer, an author or a service provider injured by a service provider's reliance on the misrepresentation.

A service provider is entitled to a broad exemption for its good-faith disabling of access to or removal of material believed to be infringing (even when a notification has not been submitted). Service providers are not liable

to any person for any claim based on the service provider's good faith disabling of access to, or removal of, material or activity claimed to be infringing or based on facts and circumstances from which infringing activity is apparent, regardless of whether the material or activity is ultimately determined to be infringing.³¹³

This exemption applies to any delictual or contractual claim that could be made against a service provider for removing or blocking access to content. It applies regardless of whether the removed or disabled material is ultimately found to be infringing. While the DMCA creates incentives for service providers to monitor and block content, service providers are generally not required to do so or to seek facts indicating infringing activity.

The DMCA includes provisions that enable the author to determine the identity of an online infringer.³¹⁴ The Act allows an author to request a clerk of any United States district court to issue a subpoena to a service provider ordering that service provider to disclose expeditiously to the author sufficient information to identify the alleged infringer, to the extent that such information is available to the service provider.

In addition to the four limitations created for all service providers, non-profit education institutions (NEIs) may benefit from special limitations that "immunise" them against the infringing acts of academic staff or graduate students which acts might otherwise be imputed to the NEIs as employers and prevent them from relying on the four limitations.

³¹¹ A counter-notification may be made when the subscriber is of the opinion that the material was wrongly removed or access to it disabled as a result of a mistake of misidentification of the material. See § 512(g)(3)(B).

³¹² See § 512(f)(1)-(2).

³¹³ § 512(g).

³¹⁴ § 512(h).

Under this special limitation,³¹⁵ the acts or knowledge of a graduate student or of a member of the academic staff will not be imputed to the public or non-profit institution of higher education that employs him or her if

- ☐ the academic or graduate student is "an employee of such institution . . . performing a teaching or research function"³¹⁶
- ☐ the academic's or graduate student's infringement does not involve the provision of online access to instructional materials that are or were required or recommended by that academic or graduate student within the proceeding three-year period for a course taught at the NEI
- ☐ the NEI has not received more than two notifications, claiming copyright infringement by such academic or graduate student, within that three-year period, and
- ☐ the NEI provides all users of its system or network with informational materials that accurately describe and promote compliance with American copyright law.

The DMCA authorises limited injunctive relief against service providers who comply with the Act's requirements of denying access to infringers and blocking infringing content.³¹⁷ A court may grant only three specific forms of equitable relief against a service provider (other than a service provider that is also an NEI) that qualifies for the system-caching, hosting or linking limitations:

- ☐ an order restraining the service provider "from providing access to infringing material or activity residing at a particular site on the provider's system or network"³¹⁸
- ☐ an order requiring a particular infringer's account or subscription to be terminated by the service provider so that he or she is denied access to the system or network,³¹⁹ and
- ☐ such other injunctive relief as the court may consider necessary to prevent or restrain infringement of specific material at a particular online location, "if such relief is the least burdensome to the service provider among the forms of relief comparably effective for that purpose".³²⁰

C The European model

The European Commission addresses the right of reproduction, in the Copyright Directive.³²¹ Article 2 of the Directive states the following: "Member States shall provide for the exclusive right to authorise or prohibit direct or indirect, temporary or permanent reproduction by any means and in any form, in whole or in part". This provision covers the transient copying that occurs in the transmission of a work over the Internet.

³¹⁵ § 512(e).

³¹⁶ § 512(e)(1).

³¹⁷ § 512(j).

³¹⁸ § 501(j)(1)(A)(i).

³¹⁹ § 501(j)(1)(A)(ii).

³²⁰ § 501(j)(1)(A)(iii).

³²¹ Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the Harmonisation of Certain Aspects of Copyright Law and Related Rights in the Information Society, available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2001:167:0010:0019:EN:PDF> (accessed July 2008).

According to article 5(1) temporary acts of reproduction are exempted from the reproduction right. The exclusion is applicable to the transmission of a work in a network, between two parties, by an intermediary and to the lawful use of a work, provided such use has no independent economic significance.

While system caching seems to fall within the ambit of article 5(1),³²² OSPs that store protected works on their servers may still be liable for direct copyright infringement.

Directive on Electronic Commerce

Of more importance in the present context is the fact that in June 2000 the European Commission published its Directive on Electronic Commerce.³²³ The Directive applies to "information society services", which are defined as a service "normally provided for remuneration, at a distance, by means of electronic equipment for the processing (including digital compression) and storage of data, and at the individual request of a recipient of services".³²⁴

The rules concerning the limitation of liability for copyright infringement are modelled on the German Multimedia Act of 1997.³²⁵ Unlike the DMC Act, the Directive applies to both civil and criminal liability for copyright infringement. Like the DMCA, the Directive on Electronic Commerce limits the liability of OSPs

- ☐ acting as mere conduits³²⁶
- ☐ engaging in system (proxy) caching³²⁷
- ☐ acting as hosts.³²⁸

Note, however, that

- ☐ In respect of the system-caching limitation in the Directive, it is not knowledge of the unlawful nature of the cached material as such but knowledge of the removal of the information at the initial source, or the fact that a competent authority has ordered such removal, that may prompt an OSP to block access to the cached copy.³²⁹
- ☐ Although the Directive intends to limit civil and criminal liability horizontally, exemption from liability is entirely uniform with regard to hosting service providers.

³²² See Recital 23 (Recital to the Copyright Directive). Beyleveld et al. (eds) *The Data Protection Directive and Medical Research Across Europe* 75 explain that Recitals have persuasive force and may be appealed to in cases not covered by the articles of a directive. The main purpose of Recitals is to provide the rationale for articles. Beyleveld "Why Recital 26 of Directive 98/44/EC should be implemented in national law" 2000 (4) *Intellectual Property Quarterly* 3 argues that "free-standing use" may be made of Recitals if articles of a directive do not cover scenarios covered in the Recitals.

³²³ Directive on Certain Legal Aspects of the Information Society Services, in Particular Electronic Commerce, in the Internal Market 2000/31/EC (OJ L178 of 17 July 2000). See also Directive 98/34/EC of the European Parliament and of the Council of 22 June 1998 Laying Down a Procedure for the Provision of Information in the Field of Technical Standards and Regulations, as amended by Directive 98/48/EC of 20 July 1998.

³²⁴ Art. 1(2) of Directive 98/34/EC as amended by Directive 98/48/EC.

³²⁵ Informations- und Kommunikationsdienste-Gesetz.

³²⁶ Art. 12.

³²⁷ Art. 13.

³²⁸ Art. 14.

³²⁹ Art. 13(1)(e).

Article 14(1)(a) of the Directive sets a contradictory standard: the absence of "actual knowledge" and "awareness". "Awareness" applies only "as regards claims for damages". Hence, a hosting OSP incurs criminal liability only if it has actual knowledge of the illegality of the activity.

D *The Electronic Communications and Transactions Act*

For the purposes of Chapter XI of the Electronic Communications and Transactions Act (the ECT Act),³³⁰ a "service provider" is "any person providing information system services".³³¹ This rather terse definition is supplemented by the definition of "information system" as "a system for generating, sending, receiving, storing, displaying or otherwise processing data messages [which system] includes the Internet".³³² This compound definition encompasses the basic functions and services needed by users to access the Internet and enjoy its benefits. It does not encompass everyone using the Internet, only those who perform the functions that make the Internet available to users.

To avail itself of the liability limitations, an OSP has to meet two threshold requirements:³³³

- ☐ it must be a member of the representative body referred to in section 71, and
- ☐ it must have adopted and implemented the official code of conduct of that body.

The Minister of Communications may, on application by an industry representative body for OSPs, by notice in the *Government Gazette*, recognise such a body for the purposes of section 72.³³⁴ The Minister may do so only if he or she is satisfied that

- (a) its members are subject to a code of conduct;
- (b) membership is subject to adequate criteria;
- (c) the code of conduct requires continued adherence to adequate standards of conduct; and
- (d) the representative body is capable of monitoring and enforcing its code of conduct adequately.³³⁵

The availability of delictual remedies against an OSP is limited to instances when the OSP satisfies the two threshold requirements mentioned above and performs certain stated functions or acts:

- ☐ transmission, routing and provision of connections to unlawful material (the "mere conduit" limitation)
- ☐ system caching
- ☐ storing infringing material at the direction of a user (the "hosting" limitation) or
- ☐ linking or referring users to infringing material (the "linking" limitation).

³³⁰ Act 25 of 2002.

³³¹ S 70 of Act 25 of 2002.

³³² S 1.

³³³ S 72.

³³⁴ S 71(1). See the Guidelines for Recognition of Industry Representative Bodies of Information System Service Providers (GN 1283 in *Government Gazette* 29474 of 14 December 2006).

³³⁵ S 71(2).

"Mere conduit" limitation: An OSP is not liable for providing access to or for operating facilities for information systems, or for transmitting, routing or storing data messages via an information system under its control, as long as it

- (a) does not initiate the transmission;
- (b) does not select the addressee;
- (c) performs the functions in an automatic, technical manner without selection of the data; and
- (d) does not modify the data contained in the transmission.³³⁶

The acts of transmitting, routing and providing access

include the automatic, intermediate and transient storage of the information transmitted in so far as this takes place –

- (a) for the sole purpose of carrying out the transmission in the information system;
- (b) in a manner that makes it ordinarily inaccessible to anyone other than anticipated recipients; and
- (c) for a period no longer than is reasonably necessary for the transmission.³³⁷

A competent court may still order an OSP to "terminate or prevent unlawful activity in terms of any other law".³³⁸

System-caching limitation: The ECT Act also limits the availability of delictual remedies available against an OSP that transmits data provided by a recipient of the service via an information system under the OSP's control for the automatic, intermediate and temporary storage of material on its system or network, provided "the purpose of storing such data is to make the onward transmission of the data more efficient to other recipients of the service upon their request".³³⁹ This act of storing is commonly known as "system caching".

To avail itself of this limitation, the OSP must prove that it

- (a) does not modify the data;
- (b) complies with conditions on access to the data;
- (c) complies with rules regarding the updating of the data, specified in a manner widely recognised and used by industry;
- (d) does not interfere with the lawful use of technology, widely recognised and used by industry, to obtain information on the use of the data; and
- (e) removes or disables access to the data it has stored upon receiving a take-down notice...³⁴⁰

A competent court may still order an OSP to "terminate or prevent unlawful activity in terms of any other law".³⁴¹

"Hosting" limitation: An OSP that

provides a service that consists of the storage of data provided by a recipient of the service... is not liable for damages arising from data stored at the request of the recipient of the service, as long as the [OSP] –

³³⁶ S 73(a)–(d).

³³⁷ S 73(2).

³³⁸ S 73(3).

³³⁹ S 74(1).

³⁴⁰ Ibid.

³⁴¹ S 74(2).

y standard: the absence of
only "as regards claims for
only if it has actual knowl-

Act

communications and Transactions
providing information sys-
temed by the definition of
receiving, storing, display-
] includes the Internet".³³⁶
ns and services needed by
s not encompass everyone
is that make the Internet

meet two threshold require-

l to in section 71, and
e of conduct of that body.
in industry representative
e such a body for the pur-
he is satisfied that

equate standards of con-

cing its code of conduct

ed to instances when the
ve and performs certain

unlawful material (the

"hosting" limitation) or
ing" limitation).

- (a) does not have actual knowledge that the data message or an activity relating to the data message is infringing the rights of a third party; or
- (b) is not aware of facts or circumstances from which the infringing activity or the infringing nature of the data message is apparent; and
- (c) upon receipt of a take-down notification . . . acts expeditiously to remove or to disable access to the data.³⁴²

The OSP must also have "designated an agent to receive notifications of infringement and . . . provided through its services, including on its web sites in locations accessible to the public, the name, address, phone number and e-mail address of the agent".³⁴³

A competent court may still order an OSP to "to terminate or prevent unlawful activity in terms of any other law".³⁴⁴

"Linking" limitation: An OSP is not liable

for damages incurred by a person if [the OSP] refers or links users to a web page containing an infringing data message or infringing activity, by using information location tools, including a directory, index, reference, pointer, or hyperlink, where the [OSP] –

- (a) does not have actual knowledge that the data message or an activity relating to the data message is infringing the rights of that person;
- (b) is not aware of facts or circumstances from which the infringing activity or the infringing nature of the data message is apparent;
- (c) does not receive a financial benefit directly attributable to the infringing activity; and
- (d) removes, or disables access to, the reference or link to the data message or activity within a reasonable time after being informed that the data message or the activity relating to such data message, infringes the rights of a person.³⁴⁵

In exchange for the above four limitations, OSPs have agreed to a injunctive procedure commonly known as "notice and take-down", covered by section 77 of the ECT Act. In terms of this procedure, when someone becomes aware of unlawful material residing or unlawful action taking place on an OSP's system or network, he or she may notify the OSP of the infringement and require it to remove or disable access to the unlawful material or activity. Such notification must

- ☐ be in writing³⁴⁶
- ☐ addressed to the OSP or its designated agent,³⁴⁷ and
- ☐ include the complainant's full names and address and written or electronic signature; identify the right that has allegedly been infringed and the material or activity that is claimed to be the subject of unlawful activity; and include the remedial action required to be taken by the OSP, the complainant's telephonic and electronic contact details, if any, and statements by the complainant to the effect that he or she is acting in good faith and that the information in the take-down notification is to her or his knowledge true and correct.³⁴⁸

342 S 75(1). These limitations do not apply when the recipient of the service acts under the authority or control of the OSP.

343 S 75(2).

344 S 75(3).

345 S 76.

346 S 77(1).

347 Ibid.

348 S 77(1)(a)–(h).

This procedure does not require OSPs to evaluate the merits of a dispute. To minimise the likelihood of fraudulent notifications, section 77(2) of the ECT Act states that "Any person who lodges a notification of unlawful activity with a service provider knowing that it materially misrepresents the facts is liable for damages for wrongful take-down".

The Act further provides in section 77(3) that a "service provider is not liable for wrongful take-down in response to a notification". Strangely, this sweeping exemption does not require the OSP to have acted in good faith.³⁴⁹ Nor are OSPs under a general obligation to monitor the data that they transmit or store, or actively to seek facts or circumstances that indicate unlawful activity.³⁵⁰

The Minister may prescribe procedures for OSPs to

- (a) inform the competent public authorities of alleged illegal activities undertaken or information provided by recipients of their service; and
- (b) ... communicate to the competent authorities, at their request, information enabling the identification of recipients of their service.³⁵¹

This ministerial power is subject to section 14 of the Constitution, which entrenches the right to privacy, including "the privacy of ... communications".

Chapter XI of the ECT Act does not affect

- (a) any obligation founded on an agreement;
- (b) the obligation of a service provider acting as such under a licensing or other regulatory regime established by or under any law;
- (c) any obligation imposed by law or by a court to remove, block or deny access to any data message; or
- (d) any right to limitation of liability based on the common law or the Constitution.³⁵²

E Some observations

First, the limitations in the ECT Act do not have the same effect. In terms of the "mere conduit" and "systems caching" limitations, the OSP is not liable for certain actions, whereas the "hosting" and "linking" limitations render the OSP not liable for damages. In terms of the "hosting" and "linking" limitations the liability of OSPs will not be limited to injunctive relief and special statutory remedies (such as notional royalty in copyright cases³⁵³).

Secondly, the effect of compliance with the notice and take-down procedure in American copyright law is more limited than that of compliance with the take-down procedure in the ECT Act. The American Copyright Act does not exclude liability generally or for damages only; instead, it more narrowly authorises only limited

³⁴⁹ By contrast, in terms of the broad good-faith requirement in the American Copyright Act, an OSP is not liable "to any person for any claim based on the service provider's good faith disabling of access to, or removal of, material or activity claimed to be infringing or based on facts and circumstances from which infringing activity is apparent, regardless of whether the material or activity is ultimately determined to be infringing" (17 USC § 512(g)).

³⁵⁰ S 78(1).

³⁵¹ S 78(2).

³⁵² S 79.

³⁵³ See s 24(1A) of the Copyright Act 98 of 1978.

injunctive relief against OSPs who comply with the requirements of denying access to infringers and blocking infringing content.

Thirdly, no similar limitation has been enacted in South Africa in favour of non-profit educational institutions.

8.4.3.4 Fair use

A Introduction

Much of the creative content that fuels electronic commerce is subject to copyright. The subject-matter of copyright encompasses diverse forms of creativity, such as writing (including scientific and technical texts), computer programs, musical works, and works of art. It is generally accepted that people learn by copying others: "from the cradle to the grave man imitates his fellow-men in speech and song, habits, fashions and fads".³⁵⁴

Copyright law does not give the author of a work a perpetual and all-inclusive property right in that work against imitators. The law seeks to achieve a balance between what is fair to both the creator and the cultural and economic development of society.

Copyright law protects and balances the interests of an individual against those of the public. The "catch-all" justification for all the exceptions and limitations is the public interest.³⁵⁵ The public interest embraces many social, economic, cultural and practical reasons for ensuring that others may use copyright material without obtaining prior permission and, in some cases, without remuneration to the author.³⁵⁶

The Copyright Act³⁵⁷ recognises in section 12 the notion of "fair dealing", in terms of which copyright is not infringed by any fair dealing with certain works – for example, by copying for purposes of research, private study or personal or private use and so on. The amount of copying that is permissible depends on the circumstances of the case. As the court pointed out in *Chicago Board of Education v Substance Inc and George E Schmidt* "the fair use defence defies codification".³⁵⁸ It is for the courts to determine whether a particular use has been fair.

An important issue to consider is whether fair use is actually a right or merely a defence. If it is viewed as a right, it would be justifiable to take positive steps in order to exercise the fair-use right and to circumvent technical protection measures. If it is viewed as a defence, taking such proactive steps would be illegal.³⁵⁹ In any event, argument that fair use or fair dealing could be construed as a right as opposed to merely a defence was struck down in the well-known *Mulholland Drive* case.³⁶⁰

354 *Per Van Dijkhorst J in Lorimar Productions Inc v Sterling Clothing Manufacturers (Pty) Ltd* 1981 (3) SA 119 (T).

355 Dworkin "Exceptions to copyright exclusivity: Is fair use consistent with article 9(2) Berne and the new international order?" 2000 (4) *International Intellectual Property Law and Policy* 66-1.

356 *Ibid.*

357 Act 98 of 1978.

358 354 F 3d 624 (7th Cir 2003) 629.

359 Wiese "Anti-circumvention laws" 2002 (4) *Communications Law* 146 fn. 4.

360 *Studio Canal SA and Universal Pictures Vidéo France SAS v Mr Stéphane X and Others* Cour de Cassation, 28 February 2006.

Dean has argued that fair use is not a right but a defence in South African copyright law because, in essence, an act of infringement has been committed which is then exempted.³⁶¹ This position is open to challenge, however.

Firstly, the heading to the fair-dealing provision³⁶² is "General exceptions from protection of literary and musical works" and not "General exceptions from liability for infringement". Secondly, the right to quote from works and to quote summaries of such works is provided for in section 12(3): such quoting would not necessarily be a reproduction of a substantial part of the work (which would constitute an infringement). In this and other instances, the fair-dealing provision is not a defence in so far as the exempted act is not in principle an act of infringement. Thirdly, section 12(11) provides that subsections (1) to (4) and (6), (7) and (10) "shall be construed as embracing the right"³⁶³ to use the work either in its original language or in a different language, and the right of translation of the author shall, in the latter event, be deemed not to have been infringed". It would seem that the wording of the Copyright Act favours the view that fair dealing is a *right*, not merely a defence.

Of importance to information-technology scholars is the scope of fair dealing in the digital environment. It has been noted that the WIPO Copyright Treaty (WCT), and particularly the anti-circumvention provisions, has had a transformative impact on the scope of copyright law in that these provisions have extended copyright law far beyond the protection of content to the regulation of markets, to the detriment of consumers.³⁶⁴ The WCT also limits the fundamental right to free speech and the potential of academic research. Geist argues that a system of "super-copyright" or "para-copyright" has been created.³⁶⁵

The application of the fair-use provisions of article 9(2) of the Berne Convention for the Protection of Literary and Artistic Works in the context of digitised use should be functionally equivalent to the application of the provisions in "traditional" environments. Thus, commercial use that harms actual or potential markets will probably amount to infringement, whereas non-profit educational use will generally be deemed fair.³⁶⁶ Between these extremes, the courts will have to determine what constitutes fair use.

Article 10 of the WCT provides that

(1) Contracting Parties may, in their national legislation, provide for limitations of or exceptions to the rights granted to authors of literary and artistic works under this Treaty in certain special cases that do not conflict with a normal exploitation of the work and do not unreasonably prejudice the legitimate interests of the author.

(2) Contracting Parties shall, when applying the Berne Convention, confine any limitations of or exceptions to rights provided for therein to certain special cases that do not conflict with a normal exploitation of the work and do not unreasonably prejudice the legitimate interests of the author.

³⁶¹ See Dean *Handbook of South African Copyright Law* para. 1-51.

³⁶² S 12.

³⁶³ Emphasis added.

³⁶⁴ See Geist "Looking at the future of Canadian copyright in the rear view mirror" 6, available at www.lex-electronica.org/articles/v10-3/geist.htm (accessed 8 March 2006).

³⁶⁵ *Ibid.* 7-8.

³⁶⁶ Department of Communications "Green paper on electronic commerce for South Africa" 60.

The agreed statement concerning article 10 emphasises the need to maintain a balanced copyright regime:³⁶⁷

It is understood that the provisions of Article 10 permit Contracting Parties to carry forward and appropriately extend into the digital environment limitations and exceptions in their national laws which have been considered acceptable under the Berne Convention. Similarly, these provisions should be understood to permit Contracting Parties to devise new exceptions and limitations that are appropriate in the digital network environment.

It is also understood that Article 10(2) neither reduces nor extends the scope of applicability of the limitations and exceptions permitted by the Berne Convention.

Dworkin³⁶⁸ notes that currently not all exceptions and limitations are subject to the three-step test. This test, also known as the economic-prejudice test, is contained in article 9(2) of the Berne Convention: first, the author's reproduction right may be limited in certain special cases only; secondly, the limitation must not conflict with the normal exploitation of the work; and, thirdly, the limitation must not unreasonably prejudice the legitimate interests of the author.

There are several specific exceptions, also known as "minor reservations", in respect of education, private research, news reporting and certain administrative purposes.³⁶⁹ Dworkin is of the opinion that the balance has been tilted in favour of authors in an attempt to help them cope with some of the threats arising from new technologies.³⁷⁰ The agreed statements concerning certain provisions of the WCT were entered into in an effort to clarify ambiguities and effect compromise.³⁷¹ In Dworkin's view these statements were entered into too hastily at the end of the 1995 Diplomatic Conference that led to the WCT. An example of such a statement is the last sentence of the agreed statement on article 10, which reads as follows: "It is also understood that Article 10.2 neither reduces nor extends the scope of applicability of the limitations and exceptions permitted by the Berne Convention". This statement is regrettable in that only those rights in respect of which some limitations or exceptions are permissible are affected by article 10.³⁷² This agreed statement renders article 10(2) nugatory.

B The impact of contractual limitations

Access to digital works is increasingly governed by contract on a pay-per-view basis. Also, increasing numbers of works protected by copyright are not sold in the way that books or video cassettes were sold in the past. These days works are licensed subject to certain terms and conditions of use.

The increased use of licensing and technological protection measures tilts the copyright balance away from the user and in favour of right-holders. Licence agreements frequently override copyright exceptions, and licensors are not obliged to consider

³⁶⁷ The agreed statements of the WIPO Diplomatic Conference on Certain Copyright and Neighbouring Rights Questions concerning certain provisions of the WCT are reproduced in endnotes below the text of the WCT. The WCT is available at www.wipo.int/treaties/en/ip/wct/pdf/trtdocs_wo033.pdf (accessed 10 July 2008).

³⁶⁸ Dworkin "Exceptions to copyright exclusivity" 2000 (4) *International Intellectual Property Law and Policy* 66-1.

³⁶⁹ *Ibid.* 66-14.

³⁷⁰ *Ibid.*

³⁷¹ *Ibid.*

³⁷² *Ibid.* 66-15.

public policy relating to fair use and exceptions.³⁷³ Furthermore, when a licensee becomes unable to continue to subscribe to a digital resource, access to both future and past editions of that electronic resource are terminated. Subscribers to online resources, such as electronic journals, are thus "tied in" to continued subscription as termination will result in a loss of all past investments.

Authors can effectively control access to their works and demand payment for access not only to their original expressions of ideas but also to vast collections of information. This has the potential to limit the size of the public domain in that both non-copyrightable works and those that enter the public domain when their copyright protection expires may remain practically inaccessible because they sit locked behind a technological protection measure.³⁷⁴

This likely result is contrary to two of the fundamental arguments for copyright protection – encouraging the publication of works and enhancing society's level of knowledge. This, in turn, affects the application of exceptions and limitations. The traditional checks and balances of the copyright system, aimed at preserving the rights of consumers and the public interest, have become vulnerable to abuse.

This trend affects information users everywhere but has an even greater effect on those in developing countries. Africa, for example, is a net consumer of intellectual property.³⁷⁵ If access to knowledge is dependent on the ability to pay, the less privileged will be placed at a distinct disadvantage.³⁷⁶ The protection of access controls empowers copyright owners to charge repeatedly for individual access to encrypted works.³⁷⁷ Instituting pay-per-use mechanisms without any exceptions for research and teaching has the potential to "lock out" most citizens of developing countries.

C The impact of rights management on developing countries

The implementation of the WCT in leading jurisdictions has led to disparate forms of protection for digital and analogue media. These measures have by means of technical constraints distorted the copyright balance between private and public rights. The role copyright law plays in barring access to embodiments of copyright works is being questioned as it impinges on a core of human rights such as the right to education, the right to seek, receive and impart information, the right to freedom of expression, and the right to enjoy the benefits of scientific progress and its applications.³⁷⁸ Several studies have pointed to the profound impact this exclusion could

373 See Committee on Copyright and Other Legal Matters "Limitations and exceptions to copyright and neighbouring rights in the digital environment: An international library perspective" www.ifla.org/III.clm/p1/ilp.htm, 14 (accessed 9 March 2006).

374 See Geist "Looking at the future of Canadian copyright in the rear view mirror" (2006) 10 *Lex Electronica* 6, available at www.lex-electronica.org/articles/v10-3/geist.htm (accessed 8 March 2006).

375 See Nwauche "A development-orientated intellectual property regime for Africa" 2.

376 See Committee on Copyright and Other Legal Matters "Limitations and exceptions to copyright and neighbouring rights in the digital environment" 2; Conroy "Access to works protected by copyright: Right or privilege?" 2006 *SA Merc LJ* 419–422.

377 See Sun "Copyright law under siege: An inquiry into the legitimacy of copyright protection in the context of the global divide" 2005 (2) *International Review of Industrial Property and Copyright Law* 204.

378 Conroy "Access to works protected by copyright" 2006 *SA Merc LJ* 417–419. See also Pistorius "Developing countries and copyright in the Information Age" 2006 (2) *Potchefstroom Electronic LJ* 9–14.

have on enlarging the "digital divide" or widening the gap between the information-rich and information-poor.³⁷⁹

The threat to the free flow of scholarly communication is obvious. Moreover, knowledge and information are indispensable for development.³⁸⁰ Most developing countries³⁸¹ are net importers of technologies and of copyright works. In the absence of effective public-interest exceptions, the great divide between the information-rich and the information-poor in both developed and developing nations will grow.³⁸²

The Botswana Copyright Act³⁸³ does not make any provision for users to benefit from limitations and exceptions that are relevant to the digital environment.³⁸⁴ The general practice of adhering to strict technological protection measures but failing to devise limitations and exceptions is also followed by developing countries in other continents. A review of copyright protection in eleven developing countries in the Asian Pacific region that have implemented technological protection measures reveals that the laws of all eleven countries grant protection to copyright owners beyond what is required for compliance with the WCT.³⁸⁵ Far-reaching rights have been granted to copyright owners to prevent the circumvention of technological measures that protect their works against unauthorised copying, and the copyright laws of these eleven countries contain very limited limitations and exceptions to these rights. In these countries, users' right to circumvent technological protection measures in order to access works has been eroded.

South African consumers have been placed in an unfortunate position as the legislature has enacted legislation dealing with the circumvention of technological protection measures outside the realm of copyright law, yet it applies to copyright works. It is irrelevant that the device has any lawful purpose other than the circumvention. Also, to procure or possess such a device with the intent of gaining unauthorised access to data is also a criminal offence. Fair dealing may not be helpful to consumers as the anti-circumvention provision is not specifically related to copyright infringement.³⁸⁶

379 See, for example, Ress "DRM and developing countries" www.indicare.org/tiki-read_article.php?articleID=97 (accessed 23 January 2007); Canadian Internet Policy and Public Interest Clinic "Digital rights management" www.cippic.ca/en/faqs-resources/digital-rights-management (accessed January 2007).

380 See Shashikant "IP and the WIPO 'Development Agenda'" http://wsispapers.choike.org/briefings/eng/sangeeta_wipo_edit.pdf, 1 (accessed 8 March 2006); Naughton "Speaking for ourselves: Southern Africa and the WSIS" 125.

381 India is an obvious exception with its flourishing film and software industries.

382 Committee on Copyright and Other Legal Matters "Limitations and exceptions to copyright and neighbouring rights in the digital environment" 1-4.

383 The Copyright and Neighbouring Rights Act, 2000.

384 This is unfortunate because Africa, Botswana included, is a net consumer of copyright goods. See Nwauche "A development-orientated intellectual property regime for Africa" fn. 1-4, text at fn. 132.

385 Consumer International "Copyright and access to knowledge: Policy recommendations on flexibilities in copyright law" 16 February 2006, www.ci-international.com (accessed 13 March 2006).

386 Pistorius "Digital copyright: Should digital be different?"

8.5 Protection of electronic databases³⁸⁷

8.5.1 Introduction

The Internet's most powerful feature is its ability to connect individuals with myriad sources of information.³⁸⁸ The Internet has been described as offering "access to information and resources beyond measure, limited only by your ability to find them".³⁸⁹

The Internet has changed from a quiet means of communication in academic and scientific-research circles to a major global data pipeline through which large amounts of intellectual property move.³⁹⁰ Initially, online information-retrieval services were expensive, and were consequently used by a relatively small community of corporate or academic subscribers only. The development of the Internet has changed this situation, however, and made "online" a household word.³⁹¹

8.5.2 What are electronic databases?

Electronic databases are simply organised collections of recorded data or information in an electronic or digital form, from where such data or information may be accessed, reproduced or retracted. It has been said that few people have information; instead, what most people actually have is data³⁹² in such quantities that information overload or blackout occurs.³⁹³ Databases are the tools that provide information about information. They have become the new building blocks of knowledge³⁹⁴ and are indispensable to e-commerce. Their importance should not be underestimated – they form the core of information technology and all information systems.³⁹⁵

Over the past several years, the market has exploded with new tools for searching, matching, collating, updating, replicating and distributing data. A familiar example is that group of tools known as "Internet search engines". A "search engine" is simply a computer program designed to accept inquiries from a user and search large electronic databases for relevant information.³⁹⁶ In response to simple user requests, search engines can root out digital property irrespective of geographic location.³⁹⁷ The popular term "search engine" actually embraces five kinds of "tool": directories (such as Yahoo), Magellan search engines (such as Lycos, Infoseek and Webcrawler), super search engines, meta search engines, and special search engines.

³⁸⁷ This discussion is based on Pistorius "The protection of electronic databases" 2000 *SA Merc LJ* 184.

³⁸⁸ See Caffarelli "Crossing virtual lines: Trespass on the Internet" 1999 *Boston University Journal of Science and Technology* para. 28.

³⁸⁹ Ibid. para. 29.

³⁹⁰ See Hayes "Advanced copyright issues on the Internet" 1998 (7) *Texas Intellectual Property LJ* 2–3.

³⁹¹ Forhan "Tasini v New York Times: The write stuff for copyright law?" 1999 *Capital University LR* 869.

³⁹² See Twine's distinction in para. 4.1, above, between data, information, knowledge and similar concepts.

³⁹³ Bastian "Protection of 'noncreative' databases: Harmonization of United States, foreign and international law" 1999 *Boston College Environmental Affairs LR* 426. See also Reichman and Samuelson "Intellectual property rights in data?" 1997 *Vanderbilt LR* 64–65.

³⁹⁴ Bastian "Protection of 'noncreative' databases" 1999 *Boston College Environmental Affairs LR* 426.

³⁹⁵ See Lavenue "Database rights and technical data rights: The expansion of intellectual property for the protection of databases" 1997 *Santa Clara LR* 1.

³⁹⁶ Forhan "Tasini v New York Times: The write stuff for copyright law?" 1999 *Capital University LR* 877.

³⁹⁷ See Brown, Bryan and Conley "Database protection in a digital world" 1999 *Richmond Journal of Law and Technology* text at n. 24, available at www.richmond.edu/jolt/v6i1/conley.html (accessed July 2008).

Super search engines expand on the search-engine concept by searching for keywords within the text of web pages, instead of only in page titles, descriptions and meta-tags. A meta search engine (such as Metacrawler and Savvy Search) allows users to employ multiple search engines, or even super search engines, simultaneously.³⁹⁸ Meta search engines typically do not contain site databases of their own: they merely route requests to a variety of different engines, then compile and return the results to the requesting party. Some search engine target specific types of information such as Usenet newsgroups (DejaNews), telephone listings (Infospace), and FTP³⁹⁹ archive sites (FTP Search). These engines search by keyword, although the actual search logic depends on the individual engine. The search engine's algorithm breaks down the user's question to determine the search criteria and locate relevant responses.⁴⁰⁰

8.5.3 Legal protection of electronic databases

The variety of entities grouped together under the heading "database" comprises a complex array of potential intellectual property including the data, the effort used to locate them, the effort and any originality involved in selecting and arranging the available data, and the tools for searching and organising them, together with all aspects of the creation of those tools.⁴⁰¹

The process of collecting and organising information in its most basic form is a matter of raw human effort. Tremendous resources are often invested in assembling large quantities of information into a database. All electronic databases have two characteristics in common – "they are costly to produce, but they are easy to reproduce or copy".⁴⁰² The ease with which digital property can be located, accessed, copied, modified and distributed is without precedent.⁴⁰³ Also, advances in copying and editing capabilities can lead to recompilations and new derivatives beyond the imagination, let alone the knowledge, of the original owner.⁴⁰⁴ Moreover, because of widespread access to global information networks, pirated copies of a database can be disseminated in a matter of moments to millions of people across the globe at a fraction of the cost of developing the database. Consequently, compilers of uncopyrightable databases face diminishing prospects of commercial success unless they obtain international protection to thwart pirating of their products.⁴⁰⁵

Like new technologies of the past, databases have caught the world's intellectual-property system napping. Computers can, of course, archive, compare, manipulate and distribute data with astonishing ease. In addition, neither the data nor the labour involved in collecting, recording and arranging them has a secure place in

398 Ibid.

399 File Transfer Protocol.

400 See Forhan "Tasini v New York Times: The write stuff for copyright law?" 1999 *Capital University LR* 877.

401 Brown, Bryan and Conley "Database protection in a digital world" 1999 *Richmond Journal of Law and Technology* text at n. 32.

402 Nelson "Recent development: Seeking refuge from a technology storm: The current status of database protection legislation after the sinking of the Collections of Information Anti-Piracy Act and the Second Circuit affirmation of *Matthew Bender and Co v West Publishing Co*" 1999 *Journal of Intellectual Property Law* 455.

403 Campbell and Bán (eds) *Legal Issues in the Global Information Society* 138–140.

404 Brown, Bryan and Conley "Database protection in a digital world" 1999 *Richmond Journal of Law and Technology* text at n. 32.

405 Bastian "Protection of 'noncreative' databases" 1999 *Boston College Environmental Affairs LR* 428–429.

cept by searching for key-
ge titles, descriptions and
Savvy Search) allows users
engines, simultaneously.³⁹⁹
of their own: they merely
ile and return the results
types of information such
space), and FTP³⁹⁹ archive
though the actual search
's algorithm breaks down
ate relevant responses.⁴⁰⁰

g "database" comprises a
he data, the effort used to
ecting and arranging the
; them, together with all

its most basic form is a
n invested in assembling
onic databases have two
out they are easy to rep-
an be located, accessed,
lso, advances in copying
v derivatives beyond the
.⁴⁰¹ Moreover, because of
opies of a database can
ole across the globe at a
ly, compilers of uncopy-
cial success unless they
oducts.⁴⁰⁵

the world's intellectual-
e, compare, manipulate
ither the data nor the
n has a secure place in

the current structure of intellectual-property law.⁴⁰⁶ As the database market grows and the cross-border flow of information increases, the demand for a stable and harmonised legal environment for databases will similarly increase.⁴⁰⁷

8.5.3.1 Copyright protection

Copyright law, electronic databases and the Internet are inextricably linked. There are two main reasons for the close relationship between copyright law and the flow of information on the Internet. First, much of the material that is communicated on the Internet consists of works of authorship, such as literary, musical and audio-visual works, computer programs and database information, all of which are the usual subject-matter of copyright. Secondly, the very nature of the Internet – an electronic online medium requiring that data be copied or reproduced as it is transmitted through the various nodes of the network – necessarily puts copyright in issue.⁴⁰⁸

8.5.3.2 Criteria for the subsistence of protection

A Originality

Traditional copyright principles require a measure of originality or creativity in the selection or arrangement of data in a compilation, or other indications of creative authorship, for that compilation to be copyrightable. The requirement of originality for copyright protection of compilations is interpreted differently in various legal systems.

United Kingdom and Commonwealth courts have favoured the "sweat-of-the-brow" approach to database protection.⁴⁰⁹ If an author has expended labour and skill in creating the work, that work will enjoy copyright protection regardless of the "bland" nature of the work. In the United States, a minimal degree of creativity or some "creative spark" is needed to satisfy the requirement of originality. In *Feist Publications Inc. v Rural Telephone Service Co.*,⁴¹⁰ the court held that the expenditure of labour and capital (the "sweat of the brow") on the creation of a compilation does not render a compilation copyrightable.⁴¹¹ "Originality", the court held, requires only a "minimal level of creativity" evidenced by the fact that the author worked independently of any pre-existing materials in selecting and arranging the new compilation.⁴¹² This approach was followed in *Warren Publishing Inc v Microdos Data Corp*,⁴¹³ in which the court held that a directory of information about American cable-television systems is not copyrightable, because the compilation lacked sufficient creativity.⁴¹⁴

³⁹⁹ *Capital University* LR 877.
³⁹⁹ *Richmond Journal of Law*

1: The current status of data-
rmation Anti-Piracy Act and
ng Co" 1999 *Journal of Intellec-*

-140.

³⁹⁹ *Richmond Journal of Law*

mmmental Affairs LR 428-429.

⁴⁰⁶ Brown, Bryan and Conley "Database protection in a digital world" 1999 *Richmond Journal of Law and Technology* 2.

⁴⁰⁷ See Barrett and Coulter "Proposed Council directive on the legal protection of databases" 1992 *Computer Law and Practice* 34.

⁴⁰⁸ Hayes "Advanced copyright issues on the Internet" 1998 (7) *Texas Intellectual Property LJ* 3.

⁴⁰⁹ See *Waterlow Publishers Ltd v Rose* (1990) 17 IPR 493; *Waterlow Directories Ltd v Reed Information Services Ltd* [1992] FSR 409.

⁴¹⁰ 499 US 340 (1991). This case involved the most primitive of all types of database – a telephone directory.

⁴¹¹ *Ibid.* 364.

⁴¹² *Ibid.* 358.

⁴¹³ 115 F 3d 1509 (11th Cir 1997).

⁴¹⁴ *Ibid.* 1520.

Under traditional German copyright principles, most factual databases do not qualify for copyright protection unless their "selection, accumulation and organization" have been achieved with know-how beyond that of the average programmer.⁴¹⁵ In terms of French copyright law, which requires original works to reveal something of the author's personality, and Dutch copyright law, most compilations do not enjoy copyright protection.⁴¹⁶

B Competition law

In the United States, the Supreme Court expressly stated that copyright protection for the investment of labour and capital invested in non-creative databases "may in certain circumstances be available under a theory of unfair competition".⁴¹⁷ A few courts have also recognised protection outside the realm of copyright law for facts amounting to "hot news" under the law of misappropriation.

In *National Basketball Association v Motorola Inc*⁴¹⁸ the court held that New York common law protects time-sensitive data from "free-riding"⁴¹⁹ under limited circumstances. In this case, the National Basketball Association brought a copyright-infringement action against Motorola, the manufacturer and promoter of hand-held pagers that provided real-time information updates about professional basketball games. The operation of the pagers relied on a "data feed" from reporters watching the games on television or listening to them on the radio. The score and time remaining in each game was then relayed by modem to a satellite, which emitted a signal updating each of the pagers. The court held that the information transmitted by Motorola to its pager customers did not constitute "hot news"; consequently, the National Basketball Association was denied copyright protection.⁴²⁰

The court explained that a "hot news" claim is limited to cases in which

- ☐ a plaintiff generates or gathers information at a cost
- ☐ the information is time-sensitive
- ☐ a defendant's use of the information constitutes "free-riding" on the plaintiff's efforts
- ☐ the defendant is in direct competition with a product or service offered by the plaintiffs
- ☐ the ability of other parties to "free-ride" on the efforts of the plaintiff would so reduce the incentive to produce the product or service that its existence or quality would be substantially threatened.⁴²¹

Unfair-competition principles are limited to regulating the behaviour of competitors. Database protection should address not only free-riders but also "information

415 See *Incassoprogramm* (unreported German Federal Supreme Court case, 9 May 1985); Pattison "The European Commission's proposal on the protection of computer databases" [1992] *EIPR* 113-114.

416 See *Van Dale v Romme*, quoted in Cornish "1996 European Community Directive on Database Protection" 1996-1997 *Columbia-VLA Journal of Law and the Arts* 3 fn. 9. See also Pattison "The European Commission's proposal on the protection of computer databases" [1992] *EIPR* 114 fns 12-13.

417 *Feist Publications Inc. v Rural Telephone Service Co.* 499 US 340 (1991) 354.

418 105 F 3d 841 (2d Cir 1997) 845.

419 Free-riding enables the defendant to produce a directly competitive product for less money because its costs are lower (*ibid.* 843).

420 *Ibid.*

421 *Ibid.* 854.

Samaritans",⁴²² third parties who, for non-economic reasons, extract data from databases without paying the database maker and make that data available to the public free of charge.⁴²³ In addition, private unauthorised use of databases might not be adequately addressed through the principles of unfair competition.

8.5.3.3 Conclusions

Copyright law seems to be the most apt system for the protection of databases. However, the requirement of "originality and a modicum of creativity"⁴²⁴ is too stringent for electronic information tools which process and store information automatically. In practice, it is becoming increasingly difficult to determine whether, and which aspects of, a database meet this requirement, in that new technologies that permit more intelligent computer-based analysis of data blur the line between information and expression. The most important commercial and scientific databases are effectively excluded from copyright protection because they do not meet the requirement of originality.

8.5.4 International initiatives

8.5.4.1 The EU Database Directive

The European Union adopted the Council Directive on the Legal Protection of Databases (the Database Directive) on 11 March 1996, after nearly eight years of deliberation. The primary purpose of the Database Directive is to stimulate investment in databases and thus increase the European share of a market which is a "cornerstone" to the economic-development plans of the European Union.⁴²⁵

Article 1(2) of the Database Directive gives a very broad definition of the concept "databases": "a collection of independent works, data or other materials arranged in a systematic or methodical way and individually accessible by electronic or other means". It is not necessary that the data contained in the database be "physically stored in an organized manner". This very broad definition is specifically intended to include non-electronic databases and the materials necessary for the operation or consultation of certain databases, such as thesaurus or indexation systems. Thus, a CD-ROM-based multimedia package, a website, an electronic or card-based library catalogue fall within the scope of the Database Directive.

Article 1(3) excludes from the Database Directive's protection any computer programs used in the manufacture or operation of databases. Article 2 provides that the Directive does not pre-empt other European Community statements on copyright, including the 1992 Council Directive on the Legal Protection of Computer Programs⁴²⁶ (the Software Directive). Article 2 appears to be at odds with Recital 20 which states that protection may be extended to "the materials necessary for the operation

⁴²² Bastian "Protection of 'noncreative' databases" 1999 *Boston College Environmental Affairs* LR 443.

⁴²³ See Hunsucker "The European Database Directive: Regional stepping stone to an international model?" 1997 *Fordham Intellectual Property Media and Entertainment* LJ 702 fn. 5.

⁴²⁴ See the discussion of originality in para. 8.5.3.2A above.

⁴²⁵ Bastian "Protection of 'noncreative' databases" 1999 *Boston College Environmental Affairs* LR 440.

⁴²⁶ Council Directive of 14 May 1991 on the Legal Protection of Computer Programs (91/250/EEC) OJ L122 17.5.91 42.

or consultation of certain databases", such as "a thesaurus or an indexation systems".⁴²⁷

Some commentators have argued that a computer program could be seen as a thesaurus or index for operating or consulting a database.⁴²⁸ We prefer the view that "thesaurus" and "index" refer to other collections of data stored with the database to facilitate access to it. An index may be maintained to increase speed of access, whereas a thesaurus may be used to define parallel or equivalent meanings of certain items of data.

Some databases may contain executable instructions.⁴²⁹ It is unclear whether the Database Directive or the Software Directive apply to the mechanisms involved in manipulating the contents of a database.⁴³⁰ Pattison's argument⁴³¹ that the command procedures for accessing databases are included in the "system for obtaining or presenting information" applies with equal force to "materials necessary for the operation or consultation of certain databases". Such procedures will attract copyright protection only if the database with which they are used is copyrightable.

The Software Directive specifies the appropriate level of copyright protection for search engines and related software tools.⁴³² Recital 23 applies to database-management systems, such as search engines, used in the making and operation of a database, which fall outside the scope of the Database Directive.

Recital 20 to the Database Directive is restricted to materials necessary for the operation or consultation of a database. But the Directive does not apply to all data: restrictions are imposed on the use of personal data, for example.

A Copyright protection

The Database Directive extends copyright protection only to databases that by the selection or arrangement of their contents manifest "the author's own intellectual creation" – in other words, to databases that evidence some measure of "originality" or "creativity" on the part of the author.⁴³³

Article 5 states that compilations of data or other material, in any form, which by reason of the selection or arrangement of their contents constitute intellectual creations, are protected as such. This protection does not extend to the data themselves or to the material, and is granted without prejudice to any copyright subsisting in the data or material contained in the compilation. Thus, article 5 adopts the approach of the American Supreme Court in *Feist Publications Inc. v Rural Telephone Service Co.*,⁴³⁴ in which it was held that only the selection or arrangement of a compilation of facts, and not the facts themselves, can be protected by copyright.

⁴²⁷ See fn. 322, above, for a brief explanation of Recitals.

⁴²⁸ See Baker, McKenzie and Hart *Guide to Intellectual Property in the IT Industry* 105 para. 6.13.

⁴²⁹ Bainbridge *Software Copyright Law* 171.

⁴³⁰ See Baker, McKenzie and Hart *Guide to Intellectual Property in the IT Industry* 105; Bastian "Protection of 'noncreative' databases" 1999 *Boston College Environmental Affairs LR* 441.

⁴³¹ "The European Commission's proposal on the protection of computer databases" [1992] *European Intellectual Property Review* 115.

⁴³² See Brown, Bryan and Conley "Database protection in a digital world" 1999 *Richmond Journal of Law and Technology* text at n. 131. See also Recital 23 and art. 1.

⁴³³ See Recital 15 and art. 3(1).

⁴³⁴ 499 US 540 (1991) 34-348.

n indexation sys-
ould be seen as a
refer the view that
h the database to
l of access, where
s of certain items

clear whether the
isms involved in
iat the command
for obtaining or
necessary for the
will attract copy-
rightable.

yright protection
lies to database-
nd operation of a

necessary for the
apply to all data

bases that by the
s own intellectual
re of "originality"

ry form, which by
e intellectual cre-
e data themselves
t subsisting in the
pts the approach
l Telephone Service
f a compilation of

5 para. 6.15.

5; Bastian "Protection

ases" [1992] *European*

19 *Richmond Journal of*

The Database Directive rejects the traditional approach of the United Kingdom and Ireland and raises the threshold for copyright protection. As noted, this standard is very similar to that applied in the United States after *Feist*, with one further limitation: the Database Directive requires intellectual creation by a human author for a work to be protected by copyright.⁴³⁵ Is it correct to restrict the originality requirement to the selection or arrangement of the data, rather than to have it relate to the work as a whole? The Directive itself does not provide clear guidance on where the line should be drawn between an original and a non-original database. Barrett and Coulter⁴³⁶ argue that a database is characterised as much by the totality and comprehensiveness of its contents as by their selection and arrangement.

The requirement of a human author raises questions about the extent to which a database can be protected under copyright law if the selection and arrangement of data are accomplished by a computer program with minimal human contribution. Article 4(1) provides that the author of a database is a natural person who has created the database and, if legislation of member States permits, the legal person designated as the right-holder. Pattison⁴³⁷ notes that this raises the question who is the "creator"? Is it the person who entered the materials into the database, the person who chose the selection and arrangement criteria, or the person who made the arrangements for the making of the work?

The Database Directive states that authors' moral rights fall beyond its scope.⁴³⁸ It would thus appear that an author may enter into a separate agreement regarding her or his moral rights in a work.⁴³⁹

The Directive extends to the author the exclusive right to carry out or authorise certain acts regarding the database. These acts include

- ☐ the temporary or permanent reproduction of the database
- ☐ the translation, adaptation, arrangement, and any other alteration of the database
- ☐ any form of distribution to the public
- ☐ any communication, and
- ☐ any display or performance of the database to the public.⁴⁴⁰

The Directive does not concern itself with digital servicing or temporary distribution. Nor does it address the nature of rights in transmission on demand. It is uncertain whether public communication must be for general reception at a given time.⁴⁴¹

B. Sui generis protection

Article 7 of the EC Directive on the Legal Protection of Databases reads as follows:

- (1) Member States shall provide for a right for the maker of a database which shows that there has been qualitatively and/or quantitatively a substantial investment in

⁴³⁵ Art. 4(1).

⁴³⁶ "Proposed Council directive on the legal protection of databases" 1992 *Computer Law and Practice* 35.

⁴³⁷ Pattison "The European Commission's proposal on the protection of computer databases" [1992] *EIPR* 119.

⁴³⁸ See Recital 28.

⁴³⁹ See Barrett and Coulter "Proposed Council directive on the legal protection of databases" 1992 *Computer Law and Practice* 35.

⁴⁴⁰ Art. 5.

⁴⁴¹ Cornish "1996 European Community Directive on Database Protection" 1996-1997 *Columbia-VLA Journal of Law and the Arts* 6.

either the obtaining, verification or presentation of the contents to prevent extraction and/or re-utilization of the whole or a substantial part, evaluated qualitatively and/or quantitatively, of the contents of that database . . .

- (4) The right provided for in paragraph 1 shall apply irrespective of the eligibility of that database for protection by copyright or by other rights. Moreover, it shall apply irrespective of eligibility of the contents of that database by copyright or by other rights. Protection of databases under the right provided for in paragraph 1 shall be without prejudice to rights existing in respect of their contents.

Substantial investment

The *sui generis* provisions of the Database Directive protect the contents of any non-copyrightable database that is the product of substantial investment in obtaining, verifying or presenting the database's contents.⁴⁴² There are no specific standards for determining the substantiality of an investment. The test is both quantitative and qualitative in nature.

Not every compilation of information will be considered a "database" for the purpose of the *sui generis* right. To qualify for protection, a database must be "a collection of independent works, data or other materials arranged in a systematic or methodical way, and individually accessible by electronic or other means".⁴⁴³

Scope of protection

The *sui generis* right enables the maker of a database "to prevent extraction and/or re-utilization of the whole or of a substantial part" of the database contents and prevent repeated and systematic extraction or re-utilisation which unreasonably prejudices the maker's "legitimate interests".⁴⁴⁴

"Re-utilization" means making the contents, or a substantial part of the contents, of the database available to the public, whether by distributing copies, making the contents available online, or by some other form of transmission.⁴⁴⁵

"Extraction" is defined as the permanent or temporary transfer of all or a substantial part of the contents of the database to another medium by any means or in any form.⁴⁴⁶ An example of extraction is the transfer of contents from paper to disk. Because the Directive refers to both temporary and permanent transfers,⁴⁴⁷ downloading a substantial portion of an electronic database onto the memory of a computer also constitutes an infringement.

The right to control resale is exhausted by the first sale of a copy of a database with the consent of the right-holder.⁴⁴⁸

The scope of protection of non-copyrightable databases is comprehensive. Article 6 of the Database Directive expressly states that the repeated and systematic extraction or re-utilisation of insubstantial parts of a database may also amount to extraction or

442 See Recital 39 and art. 7(1). See also Cornish "1996 European Community Directive on Database Protection" 1996-1997 *Columbia-VLA Journal of Law and the Arts* 8.

443 Art. 1(2).

444 Art. 7(1) and (5).

445 Art 7(2)(b).

446 Art 7(2)(a).

447 See Lui "Recent developments in copyright, database protection and (online) licensing" 1999 *International Journal of Law and Information Technology* 85.

448 See art. 7(2)(a)-(b) and Recital 41.

notes that a database is "easy to protect" in that the Database Directive defines a database broadly and provides a *sui generis* intellectual-property right that requires only that a qualitatively or quantitatively substantial investment be shown.⁴⁷⁰ A database is "easy to infringe" by virtue of the broad protection afforded by the *sui generis* right.

The Database Directive has been implemented in many member States, most notably, for our purposes, in the United Kingdom. The United Kingdom and Ireland had to raise above "sweat of the brow" the standard required for proof of originality for the copyright protection of databases. The requirement for database protection in the United Kingdom has been placed on a par with the similar requirement in the Database Directive.⁴⁷¹

It has been noted that there is a risk that national courts applying the ECJ's case-law will conclude that relatively little of the cost of establishing a database appears to have been spent in collecting and verifying the information displayed on a website containing data relating to, for example, real estate or job advertisements.⁴⁷² On the other hand, the ECJ's narrow interpretation of the *sui generis* protection for "non-original" databases the data of which were "created" by the same entity as that which established the database would put to rest any fear that such an entity would abuse its dominant position in respect of the data and information it had "created" itself.⁴⁷³

The interpretation of the ECJ may also allay the fears of those who believed that the Directive would lock up information otherwise publicly available, at least with respect to those databases that contain data "created" by the database maker.⁴⁷⁴ It is noteworthy that the ECJ and some national judges fear that the balance between users and right-holders is inappropriate and that the database right may unduly restrict users' access to information.⁴⁷⁵ Indeed, the interpretation adopted by the ECJ may have been influenced by the concern that the *sui generis* right might otherwise significantly restrict access to information. Thus, for instance, the ECJ has ruled that

470 Ibid.

471 See reg 6 of the UK's Copyright and Rights in Databases Regulations. The twofold reason for the adoption of this regulation is explained in reg 2(1). These Regulations implement Council Directive 96/9/EC of 11 March 1996 (*Official Journal* No. L77 27.3.96 20) on the legal protection of databases and certain obligations of the United Kingdom created by or arising under the Agreement on the European Economic Area which relate to the implementation of that Directive. The Regulations became effective on 1 January 1998. They are available at www.opsi.gov.uk/si/si1997/73032-a.htm#1 (accessed July 2008).

472 Commission of the European Communities "First evaluation of Directive 96/9/EC on the Legal Protection of Databases" 20. Art. 16 of the Database Directive requires the Commission to submit to the European Parliament, the Council and the European Economic and Social Committee a "report on the application of this Directive, in which, *inter alia*, on the basis of specific information supplied by the Member States, it shall examine the application of the *sui generis* right . . . [T]his right has led to abuse of a dominant position or other interference with free competition which would justify appropriate measures being taken, including the establishment of non-voluntary licensing arrangements. Where necessary, it shall submit proposals for adjustment of this Directive in line with developments in the area of databases".

473 Ibid. See also Müller and Munz "Recent case law from Germany concerning the database right" 2007 (2) *Communications Law* 60, 66-67.

474 Commission of the European Communities "First evaluation of Directive 96/9/EC on the Legal Protection of Databases" 22.

475 See Müller and Munz "Recent case law from Germany concerning the database right" 2007 (2) *Communications Law* 65.

ive defines a database that requires only n.⁴⁷⁶ A database is *sui generis* right.

ther States, most gdom and Ireland roof of originality database protection requirement in the

ng the ECJ's case database appears to ayed on a website ements.⁴⁷⁷ On the ction for "non- ntity as that which ntity would abuse "created" itself.⁴⁷⁸

who believed that able, at least with ase maker.⁴⁷⁹ It is balance between right may unduly dopted by the ECJ it might otherwise ECJ has ruled that

twofold reason for the lement Council Direct- gal protection of data- under the Agreement n Directive. The Regu- psi.gov.uk/si/si1997/

96/9/EC on the Legal Commission to submit id Social Committee a of specific information *generis* right . . . [T]his ree competition which nent of non-voluntary nment of this Directive

ng the database right

96/9/EC on the Legal uabase right" 2007 (2)

the mere act of consulting a database is not covered by the database-maker's exclusive rights.⁴⁷⁶

The Database Directive has not been an outstanding success and the repeal of the *sui generis* database right has even been proposed.⁴⁷⁷

8.5.4.2 The position in the United States

Before the Supreme Court's decision in *Feist Publications Inc. v Rural Telephone Service Co.*,⁴⁷⁸ American courts occasionally granted, under the "sweat-of-the-brow" doctrine, copyright protection for the effort involved in finding and assembling a body of collected data.⁴⁷⁹ However, in *Feist*, the court held that the expenditure of labour and capital (the "sweat of the brow") on the creation of a compilation, no matter how extensive in nature, does not in and of itself make a compilation copyrightable.⁴⁸⁰ The court noted that for a factual compilation of pre-existing facts to be protected by copyright it must be shown to

- ☐ consist of pre-existing facts or data
- ☐ have been selected, co-ordinated, or arranged by the author, and
- ☐ be an original work of authorship "by virtue of the particular selection, co-ordination, or arrangement" of the data.⁴⁸¹

"Originality", the court held, requires only a "minimal level of creativity" evidenced by the fact that the author worked independently of any pre-existing materials in selecting and arranging the new compilation.⁴⁸² This requires a court to evaluate a compilation's originality by examining the author's selection and arrangement of the data.⁴⁸³ It is an open question whether *Feist* sounded the death knell for copyright protection of non-creative databases. In any event, it is clear that *Feist* raised the "originality bar". The required standard may be "minimal", but it is still a standard. Also, American courts are no longer free to ignore the requirement of originality or to adopt the "sweat-of-the-brow" approach.⁴⁸⁴

476 See *The British Horseracing Board Ltd v William Hill Organization Ltd* case no. C-203/02: "However, it must be stressed that the protection of the *sui generis* right concerns only acts of extraction and re-utilisation as defined in Article 7(2) of the directive. That protection does not, on the other hand, cover consultation of a database" (para. 54). "Of course, the maker of a database can reserve exclusive access to his database to himself or reserve access to specific people. However, if he himself makes the contents of his database or a part of it accessible to the public, his *sui generis* right does not allow him to prevent third parties from consulting that base" (para. 55).

477 See the conclusion to the Commission of the European Communities "First evaluation of Directive 96/9/EC on the Legal Protection of Databases".

478 499 US 340 (1991). This case involved the most primitive of all forms of database – a telephone directory.

479 See, for example, *Jeweller's Circular Publication Co v Keystone Publication Co* 281 F 83 (CA2 1922); *Leon v Pacific Telephone & Telegraph Co* 91 F 2d 484 (CA9 1937).

480 *Feist Publications Inc. v Rural Telephone Service Co.* 499 US 340 (1991) 364.

481 *Ibid.* 357.

482 *Ibid.* 358.

483 See Caffarelli "Crossing virtual lines" 1999 *Boston University Journal of Science and Technology* para. 30.

484 See Brown, Bryan and Conley "Database protection in a digital world" 1999 *Richmond Journal of Law and Technology* text at n. 93.

In *Warren Publishing Inc v Microdos Data Corp*,⁴⁸⁵ the plaintiff had published a directory of information about American cable-television systems, the *Television & Cable Factbook*. The defendant marketed a software package containing the same information. Warren Publishing asserted that the software package infringed copyright in its *Factbook*. The court held that Warren's work is not copyrightable in so far as that work is a mere technique for discovery of facts. The mere discovery of an organising principle which is dictated by the market is not sufficient to establish creativity. The court relied on the following dictum in *Feist*:⁴⁸⁶ "The distinction is one between creation and discovery: The first person to find and report a particular fact has not created the fact; he or she has merely discovered its existence."⁴⁸⁷

The court held that the same can be said for an organising principle like the "principal community". Thus, even if the plaintiff discovered the existence of the principal community as an organising concept, he or she did not create this organisation.⁴⁸⁸ The *Factbook* does not fall under the "selection" prong of the § 101 definition of a compilation, because no selection has been made (by anybody): the *Factbook* merely lists all geographic communities having cable service. The court ruled that the compilation was not entitled to copyright protection, because the compilation lacked sufficient creativity.⁴⁸⁹ Proponents of database-protection legislation often point to *Warren Publishing* to justify their calls for stronger protection.⁴⁹⁰

The first failed attempt to strengthen database protection in the United States was HR 2281, which formed part of the Digital Millennium Copyright Bill and followed the approach of the European Council Directive on the Legal Protection of Databases. The Collections of Information Antipiracy Bill (HR 354) has been described as a response to a need to complement copyright law with a federal misappropriation law that imposes liability on any person who extracts, or uses in commerce, all or a substantial part of a collection of information gathered, organised or maintained by another person, through the investment of substantial monetary or other resources, in order to cause harm to the actual or potential market of that other person.⁴⁹¹

Another approach is to codify at federal level the misappropriation laws of the various States and to limit the cause of action created to competitive misappropriation of time-sensitive or "hot news" information. The preference for a misappropriation approach to protection is consistent with *National Basketball Association v Motorola Inc*.⁴⁹² Nelson⁴⁹³ notes that adopting legislation which incorporates the "hot news" test expounded in the *Motorola* case would be likely to allow significant re-use of information by subsequent compilers.

485 115 F 3d 1509 (11th Cir 1997).

486 *Feist Publications Inc v Rural Telephone Services Co*, 499 US 340 (1991) 347, 111 S Ct 1282 (1991) 1288.

487 *Ibid.*, 499 US 340 (1991) 347; 111 S Ct 1282 (1991) 1288.

488 *Warren Publishing Inc v Microdos Data Corp* 115 F 3d 1509 (11th Cir 1997) fn. 31.

489 *Ibid.*, 1520.

490 See Nelson "Recent development: Seeking refuge from a technology storm" 1999 *Journal of Intellectual Property Law* 464.

491 *Ibid.*, 479.

492 105 F 3d 841 (2d Cir 1997).

493 Nelson "Recent development: Seeking refuge from a technology storm" 1999 *Journal of Intellectual Property Law* 479.

published a direct-
Television & Cable
ing the same infor-
ing copyright in
le in so far as that
y of an organising
lish creativity. The
n is one between
icular fact has not

iple like the "prin-
ce of the principal
is organisation."⁴⁹⁴
01 definition of a
he *Factbook* merely
iled that the com-
mpilation lacked
on often point to

United States was
Bill and followed
rotection of Data-
is been described
ral misappropria-
commerce, all or
ed or maintained
r other resources,
er person.⁴⁹⁵

ation laws of the
ve misappropria-
r a misappropria-
ciation *v* *Motorola*
re "hot news" test
t re-use of infor-

8.5.4.3 The position in South Africa

Section 2 of the Copyright Act⁴⁹⁴ in essence states that a work listed in that section is not eligible for copyright protection unless the work is original. This does not mean that the work must be a vehicle for new or inventive thought, nor does it mean that such thoughts as the work may evidence must be expressed in a form that is novel or without precedent. As long as the author's own skill and labour were expended the work will be deemed original, irrespective of whether an identical work already exists.⁴⁹⁵ Two or more identical works can exist side by side as long as each work emanated from the author himself or herself.

However, it is something of a generalisation to say that to be original a work must emanate from the author and not be copied from another work. It is not, in fact, necessary that every aspect of the work emanate from the author himself or herself; the author is perfectly at liberty to use existing material. But, when he or she does so, his or her work must be more than simply a slavish imitation of some earlier work: to some extent, at least, it should be the result of the author's own independent labour. Exactly what degree of labour is required is difficult to say. In the circumstances it may be best to resort to earlier decisions of the courts, although it has been said that there is a "rough practical test that what is worth copying is worth protecting".⁴⁹⁶

Copyright protection has frequently been extended to compilations of non-copyright material because of the labour and skill involved in selecting and arranging the material. For example, protection has been given to

- ☐ compilations such as a street directory⁴⁹⁷
- ☐ a list of stock-exchange prices⁴⁹⁸
- ☐ an alphabetical list of railway stations in a railway guide⁴⁹⁹
- ☐ a trade catalogue⁵⁰⁰
- ☐ a racing-information service⁵⁰¹
- ☐ chronological fixture lists of football games⁵⁰²
- ☐ a directory of telefax users,⁵⁰³ and
- ☐ a catalogue and price list.⁵⁰⁴

Reading these decisions as a whole, the conclusion is that, for a compilation to receive recognition as an original copyright work, the compilation must be such that

494 Act 98 of 1978.

495 See *University of London Press Ltd v University Tutorial Press Ltd* [1916] 2 Ch 601; *Macmillan & Co Ltd v Cooper* [1923] 40 TLR 186.

496 Per Petersen J in *University of London Press Ltd v University Tutorial Press Ltd* [1916] 2 Ch 601, approved in *Ladbroke (Football) Ltd v William Hill (Football) Ltd* [1964] 1 All ER 465 (HL).

497 *Kelly v Morris* (1866) LR 1 Eq 697.

498 *Exchange Telegraph Co Ltd v Gregory & Co* [1896] 1 QB 147.

499 *Blacklock & Co Ltd v C Arthur Pearson Ltd* [1915] 2 Ch 376.

500 *Purefoy Engineering Coy Ltd and Another v Sykes Boxall & Coy Ltd and Others* (1955) 72 RPC 89 (CA).

501 *Portway Press Ltd v Hague* [1957] RPC 426.

502 *Football League Ltd v Littlewoods Pools Ltd* [1959] Ch 637.

503 *Fax Directories (Pty) Ltd v SA Fax Listings CC* 1990 (2) SA 164 (D).

504 *Payen Components SA Ltd v Bouic CC and Others* 1995 (4) SA 441 (A).

11 S Cr 1282 (1991)

99 *Journal of Intellectual*

Journal of Intellectual

it cannot simply be regarded as a copy of existing material but rather as a work that contains features and qualities absent from the material form (or forms) from which it was initially composed.

Dean⁵⁰⁵ submits that under South African law an electronic database, like any other work, should be "original". No higher standard or level of creativity is required. As noted above, in the United States, a minimal degree of creativity or some "creative spark" is needed to satisfy the requirement of originality. In South Africa, on the other hand, creativity is not required to make a work original – the so-called "sweat of the brow" is sufficient. The requirement of originality is satisfied solely by the fact that the contents of a particular compilation have been independently collected through the author's own skill or labour, and not copied from another.⁵⁰⁶ In *Haupt t/a Softcopy v Brewers Marketing Intelligence (Pty) Ltd and Others*⁵⁰⁷ Streicher JA confirmed that, because our Copyright Act originated from the English law, creativity is not a requirement for copyright in South African law. The court then confirmed the test for originality in South African copyright law as the following: "Save where specifically provided otherwise, a work is considered to be original if it has not been copied from an existing source and if its production required a substantial (or not trivial) degree of skill, judgement or labour".⁵⁰⁸ The "sweat of the brow" doctrine is still firmly entrenched in South African copyright law.

Electronic databases were protected by copyright prior to the 1997 amendment⁵⁰⁹ to the Copyright Act because the material-embodiment requirement could be met by digital embodiment. The South African database owner is in an advantageous position: the originality requirement is set so low that both original and non-original databases qualify for protection.

8.5.5 Conclusion

Sui generis protection comes close to protecting data as property. There is a long-standing principle that copyright should not be extended to cover basic information or "raw" data. However, as evidenced by the European Court of Justice's differentiation between the "creation" of data and the obtaining of thereof,⁵¹⁰ the *sui generis* right comes precariously close to protecting basic information.⁵¹¹

The keys to copyright protection of databases are selection and arrangement. However, the more comprehensive the database, the less copyright protection may be available. If everything is included in the database, there is no selection. Stone and Kernick⁵¹² note that a comprehensive database containing the entire universe of relevant data may be commercially useful but not copyrightable, because "selection" requires the exercise of creative judgement in culling facts. This principle may be

505 Dean *Handbook of South African Copyright Law* 1-8A.

506 See *Waylife Davies CC v First National Bank Ltd* 1995 (1) SA 645 (A).

507 2006 (4) SA 458 (SCA).

508 Ibid. 473A-B.

509 See the Intellectual Property Laws Amendment Act 38 of 1997.

510 See para. 8.6.4.1(b), above, under the heading "Obtaining or creating data for a database".

511 See Fieldhouse and Bolton "Copyright? Wrong! – Copyright protection of computer programs as literary works" 2003 *Copyright World* 25.

512 "Protecting databases: Copyright? We don't need no stinkin' copyright" *The Computer Lawyer* 17.

especially problematic for digital databases such as those accessed through the Internet, since their very appeal is their all-inclusiveness.⁵¹³

Introduced to stimulate the production of databases in Europe, *sui generis* protection has had no proven impact on the production of databases.⁵¹⁴ Nevertheless, there has been a considerable growth in database production in the United States, whereas in the European Union the introduction of *sui generis* protection appears to have had the opposite effect. With respect to "non-original" databases, the assumption that more and more layers of intellectual-property protection means more innovation and growth appears not to hold up.⁵¹⁵

8.6 Concluding remarks

In a "final teaser", we may join Conroy and the Cheshire Cat in wondering which way South Africa should follow.⁵¹⁶ A golden thread that runs through the discussion of copyright protection and information technology is the difficult challenges technological innovation poses for copyright law and policy.

Copyright law must adapt rapidly in order to remain relevant. It is clear that the use of technological protection measures to safeguard copyright works in digital formats is necessary in light of the ease with which these works may be unlawfully exploited. The various legislative measures adopted with the aim of prohibiting acts and devices that circumvent these technological protection systems are indicative of the growing importance of protecting works in digital format.

South Africa, as a developing country, is in a difficult position. On the one hand, it is submitted that we ought to devise our own strategies for coping with the proliferation of protectionism in the context of the widening digital divide.⁵¹⁷ On the other hand, it is imperative that we keep in step with the latest developments in international copyright law.

513 See Brown, Bryan and Conley "Database protection in a digital world" 1999 *Richmond Journal of Law and Technology* text at n. 93.

514 According to the Gale Directory of Databases, the number of EU-based database "entries" was 3 095 in 2004 as compared with 3 092 in 1998 when the first member States implemented the *sui generis* protection into their national laws (European Communities "First evaluation of Directive 96/9/EC on the Legal Protection of Databases" 20). It is noteworthy that the number of database "entries" decreased just after most of the EU member States implemented the Directive into their national laws in 2001. In 2001, there were 4 085 EU-based "entries", while in 2004 there were only 3 095 (loc. cit.). The *sui generis* right has helped Europe to catch up with the United States in terms of investment but, at the same time, it has not helped to improve significantly the global competitiveness of the European database sector. The data taken from the Gale Directory of Databases reveal that the economic gap between Europe and the United States has not been reduced (op. cit. 23).

515 Commission of the European Communities "First evaluation of Directive 96/9/EC on the Legal Protection of Databases" 24.

516 Conroy "A comparative study of technological protection measures in copyright law" (LLD thesis, Unisa, 2007) 291.

517 Pistorius "Developing countries and copyright in the Information Age" 2006 (2) *Potchefstroom Electronic LJ* 1-27.