

Copyright and databases

Matthew James Mullan

Why is copyright protection difficult for Databases?

For a database to obtain protection under the Copyright Act, the first question is where does an electronic database fit? For it to be eligible it must be a "work" or "subject matter other than works". Amendments to the Copyright Act were made to allow the classification of "literary work" to include a compilation. Could it be argued that an electronic database is a compilation?

Prior to the amendment of the Copyright Act by the Copyright Amendment Act 1984, the definition of "literary work" included "a written table or compilation".¹ The problem with this definition was the word "writing" - a mode of representing or reproducing words, figures or symbols in visible form.² This definition prevented any form of information stored electronically from being eligible for copyright because it is not visible to the naked eye.

It is clear from the Explanatory Memorandum which accompanied the Copyright Amendment Bill 1984 that the goal was to extend the definition of "literary work" to include computerised database.

In that memorandum, it was stated that the earlier definition:

"25... would not cover tables or compilations which, though of literary form in the sense that they were expressed in words figures or symbols, were not in a visible form because for example, they were stored on magnetic tape or in a computer."

Further:

"26 By removing the requirement that tables or compilations be in visible form it is made clear that a computerised data bank, for example, may be treated as a compilation being a literary work....."

This led to the current definition of "literary work" being:

"a table, or compilation, expressed in words, figures or symbols (whether or not in visible form)"³

This, however, has arguably caused more problems than it has solved. A computer does not use "words, figures or symbols". The computer stores the information merely as electronic pulses. It is only after a user accesses the information that the computer converts this electronic pulse into a "word, figure or symbol" which is able to be seen and recognised by the user. If this current definition of "literary work" were to be applied strictly, then there would be no copyright protection available to a computerised database as it would not fit the criteria of a literary work, because the "literary work" while stored electronically is not expressed in words, figures or symbols.

To adopt the above view would not be in the spirit of the Act. The approach being used by Australian courts⁴ is that a computer database being "a table, or compilation, expressed in words, figures or symbols" when accessed by a user will be afforded copyright protection and it does not matter what form these tables or compilations are stored in when they are in their invisible form somewhere within the circuitry of a computer.

It is interesting to note the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) of which Australia is a signatory, states:

"Compilations of data or other material, whether in machine readable or other form, which by reason of the selection or arrangement of their content constitute intellectual creations shall be protected as such. Such protection, which shall not extend to

the data or material itself, shall be without prejudice to any copyright subsisting in data or material itself."

If Australian courts were to decline copyright protection on the basis that the data was in a "non-sensate" form being only "machine readable" then Australia would be in breach of its international obligations.

Do we have an author?

In order to have copyright protection for a literary work, there is the requirement of an "author" and that author must be a "qualified person" meaning an Australian citizen, an Australian protected person or a person resident in Australia. However, electronic databases are often created by the work of hundreds of individuals and it may be impossible to point towards one single person as being the author of the database. However, various people who work or "collaborate" to produce the database would all be considered authors.

"a work that has been produced by the collaboration of 2 or more authors and in which the contribution of each author is not separate from the contribution of the other author or the contribution of other authors".⁵

Another complicating factor is that many electronic databases are made by large computer corporation, however, a body corporate cannot be the author of a copyright work. The Copyright Act is able to cope with this occurrence by the application of s.35(6) which states that if an "author" creates a work in the course of employment, then the employer is the owner of the copyright although it is not the "author".

But is it original ?

Databases are typically factual in their content requiring significant expenditure of time, effort and money to be able to sort through the reams of information and categorise them in the particular manner, however, there is little scope for originality or creativity. The compiler, in gathering and compiling raw facts, does not create the facts, they are just discovered or uncovered, sometimes at great expense and trouble.

Originality is the biggest hurdle for factual databases. The information compiled is frequently public knowledge, facts, or data and is not capable of ownership by the compiler. An example of this would be the creation of a database which records many of the personal details of Sydney lawyers who specialise in information technology. The compiler of this database decides to call every law firm in Sydney and ask if they have any lawyers who specialise in information technology. If the answer is "yes", then the compiler would ask for further details of the firm's contact details and perhaps details of the particular lawyer's work experience. The compiler would then have a database setting out the contact details of every firm where there are some information technology lawyers and details of those lawyers' work experience. Does the compiler of the database therefore own the names and addresses of these lawyers? The lawyers involved would certainly argue against this, so then the question is, what does the compiler of this database own? What protection can the compiler of the database have from others copying and selling the work? The way in which the information about the lawyers has been arranged in the database may involve little or no originality, it may be merely an alphabetical list, therefore, even this aspect of the database is not capable of protection. However, it is undoubted that the person who compiled the database has gone to time and trouble of telephoning these major firms throughout the Sydney

area - but should that alone entitle the compiler to copyright?

The scope of skill & labour

The question of whether a work is original, is largely a question as to the degree of skill and labour which has been imparted from the author to create the production. The problem with this analysis was stated by Lord Atkinson in McMillan v Cooper, Privy Council, (1923) 40 TLR 186:

'What is the precise amount of knowledge, labour, judgment or literary skill or task which the author of any book or compilation must bestow upon its composition in order to acquire copyright in it within the meaning of the Copyright Act of 1911 cannot be defined in precise terms. In every case, it must depend largely on the special facts of the case, and must in each case be very much a question of degree.'

The applications of these concepts to electronic databases is difficult. In tackling the question of whether *some labour, skill, judgment or ingenuity has been brought to bear on the compilation*, the courts have tended to look at the work as a 'single work' rather than attempting to break the work down into a series of steps. Lord Reid said in Ladbroke (Football) Limited v William Hill (Football) Limited:

*'A wrong result can easily be reached if one begins by dissecting the plaintiff's work and asking could Section A be the subject of copyright if it stood by itself, could Section B be protected if it stood by itself, and so on. To my mind, it does not follow that, because the fragments taken separately would not be copyright, therefore the whole cannot be. Indeed, it has often been recognised that if sufficient skill and judgment have been exercised in devising the arrangement of the whole work, that can be an important or even decisive element in deciding whether the work as a whole is protected by copyright.'*⁶

The creation of an electronic database involves a wide range of skills, the question is then open for the court to decide on the ambit of skills which is

to be part of the consideration of skill and labour spent in the development of the database.

A further complicating factor for a court to consider in the electronic era is the distinction between 'computer aided' and 'computer generated' works. In the former case, the computer is a mere tool like a pen or word processor.⁷ However, in the case of computer generated works, the computer is largely responsible for the generation of the work and the user input is relatively little.

Should the court limit its scope to the skills and labour involved in the compilation of the data or, should it look wider? If the software program was designed specifically for the database, should the skill and labour involved in the creation of the software program also be considered? Taking this example to extremes, is it appropriate that the computer which has been designed to run the software program also be considered in the ambit of skill and labour when considering the concept of originality?

The United States approach

In the United States, in order to lend copyright protection to merely factual databases, courts try to move away from the strict application of the creativity test, to employ an 'industriousness', or 'sweat of the brow' test to determine if the database is an 'original' enough work to be afforded copyright.⁸ Under the sweat of the brow doctrine, a compiler would be able to protect the database, even a purely factual database, so long as the compiler could show a sufficient amount of effort had gone into the compilation of the facts. However, this extension of copyright has come under severe criticism by other US courts. In the words of the Second Circuit Court of Appeals:

*'To grant copyright protection based merely on the sweat of the author's brow would risk putting large areas of actual research material off limits and threaten the public's unrestrained access to information.'*⁹

The leading case in this area at the moment is the case of Feist Publications Inc v Rural Telephone Services Company Inc 499 U.S. 340, 111 S.Ct. 1282, 113 L.Ed. 2d.358 (1991). The alleged infringer, Feist Publications, was found to have copied large portions of the white pages from Rural Telephone Services Company's phone book. Feist Publications' repetition of 4 fictitious listings, or "seeds", which Rural Telephone had planted in their white pages had helped to prove the copying. Rural Telephone argued that the white pages listings of names and addresses in its phone book, although admittedly facts, were still entitled to copyright protection. It contended that its efforts to obtain and select these facts should be protected, and its competitor, Feist Publications, should be required to go to the same effort to obtain information, and should not be allowed to benefit from its research and just copy the information.

The Trial court agreed with the arguments of Rural Telephone and entered a judgment for copyright infringement in favour of Rural Telephone. In an unpublished opinion, the Tenth Circuit Court of Appeals affirmed, but the Supreme Court reversed the decision holding:

'The sweat of the brow doctrine had numerous flaws, the most glaring being that it extended copyright protection in a compilation beyond selection and arrangement - the compiler's original contribution to the facts themselves "sweat of the brow" the court's thereby eschewed the most fundamental axiom of copyright law - that no one may copyright facts or ideas [T]hey handed out proprietary interest in facts and declared that authors are absolutely precluded from saving time and effort by relying on facts contained in prior works.'

The Supreme Court held that the white pages portion of the phone book was not entitled to copyright protection even though the rest of the book was. Therefore, Feist Publications, and anyone else, was

free to copy the white pages. As Justice O'Connor concluded in her unanimous opinion:

'Because Rural's white pages lack the requisite originality, Feist use of the listings cannot constitute infringement. This decision should not be construed as demeaning Rural's efforts in compiling its directory, but rather as making clear that copyright rewards originality not effort.'

Feist and Australian Courts

The view that the US Supreme Court took in the matter of Feist was that in order to attain originality, there was some degree of creativity required from the author and that this concept of 'sweat of the brow' was not sufficient. Although the courts recognise that the present test for originality was not very strong, it was still clear that originality was a requirement. Thus, if 'the creative spark is utterly lacking or so trivial as to be virtually non-existent' then copyright will not subsist in the work.¹⁰

This approach is consistent with Australian law in that copyright will subsist in a compilation if it is more than negligible.¹¹ (but bear in mind "negligible is a very small amount) Sufficient skill and labour must be exerted on the raw materials so that an original result is produced.

It was stated by Upjohn J in Football League Limited v Littlewood Pools Limited that:

'Compilations frequently, but not of course necessarily, constitute of merely quasi-statistical reference material such as railway timetables, horse breeding material, catalogues, indices, solar and lunar calendar events, reference directories and so on. Such material has no literary merit in the sense of having grammatical composition as to such compilations the law is clear but difficulty arises in its application. Copyright for such a compilation can be claimed successfully if it be shown that some labour, skill, judgment or ingenuity has been brought to bear

*on the compilation.'*¹²

When is the Work made? - Material Form

The time at which copyright will subsist in an unpublished original literary work is the time at which the work is made.¹³ This is taken to mean when it is first reduced to writing or some other material form.¹⁴ The definition of material form, as amended by the Copyright Amendment Bill 1984, is as follows:

*'In relation to a work or an adaptation of a work, includes any form (whether visible or not) of storage from which the work or adaptation, or a substantial part of the work, or adaptation can be reproduced.'*¹⁵

The intention of the Bill was to include in the definition of material form reproduction onto magnetic tape, RAM, ROM, magnetic or laser discs, bubble memories and other forms of storage which may be developed.¹⁶ The important thing to remember about this definition is that these 'new' forms of storage will only satisfy the condition of material form if the work which has been stored upon them can, in fact, be reproduced. Unfortunately, however, there is no definition of reproduction in the Copyright Act 1968. However, there has been some discussion of what this concept means in relation to computer programs in the case of Computer Edge Pty Limited v Apple Computer Inc¹⁷(the Apple case) and Dyason & Ors v Autodesk Inc and Anor¹⁸ and the High Court decision of Autodesk Inc v Dyason¹⁹.

computer programs - how the Courts have defined reproduction

The Copyright Act expressly protects computer programs as literary works since the Copyright Amendment Bill 1984. The Bill followed the Apple case²⁰ where the High Court found by a 3-2 majority that the "object code" which is essentially the electronic version of the computer program or "source code" was outside the

meaning of literary work because it was not in a visible form. In addition to amending the definition of literary work the Bill²¹ made complementary amendments to the definition of:

- “adaptation” - to be any translation of a computer language, this would typically be from source code to object code, and
- “material form” - to include any form of visible or non-visible storage from which a work can be reproduced - this is designed to include the storage of magnetic disk.

Section 10 of the Copyright Act states:

“computer program” means an expression, in any language, code or notation, of a set of instructions (whether with or without related information) intended, either directly or after either or both of the following-

(a) conversion to another language, code or notation;

(b) reproduction in a different material form; to cause a device having digital information processing capabilities to perform a particular function;

These new definitions were applied by Davis J in the decision of *Star Micronics Pty Ltd -v- Five Star Computers Pty Ltd*.²² In that decision Davis J stated that storage of electrical impulses on ROM, though not visible, met the definition of material form. It can be implied, from this decision, that a work can be reproduced from this form of storage.

Can a work which is stored in ROM or some other form of secondary storage be a reproduction of a written work?

In the Apple Computer case, both Gibbs CJ and Brennan considered that there must sufficient objective resemblance between the work and the alleged reproduction before the work is reproduced in a material form. This principal of objective similarity or resemblance had been developed over many years in relation

to visible works and reproductions. The court held that there was no resemblance between the written source code and the electrical impulses in a silicon chip and hence no reproduction. If this reasoning of ‘objective similarity’ is to be applied then a written data base cannot be a reproduction of a data base stored in electrical impulses and visa versa. However, with the 1984 amendments the courts have been able to go beyond the narrow “objective similarity” test. Mason CJ, Brennan and Dean JJ in the *Autodesk* High Court decision has cast doubts on the requirement of the objective similarity requirement. Their Honour stated that:

“The translation of a written work into a computer ROM memory may be a reproduction on the basis that copyright actually subsists in any expression or description in which it can theoretically be made in language, code or notation.”²³

The idea of an object similarity test was developed in an era where the concept of an “invisible” or “non-sensate” work was never contemplated. The comments by the court in *Autodesk* is an approach which is in line with Australia’s obligations under TRIPS.²⁴

Publication of a Work

Publication is one of the exclusive rights conferred on a copyright owner. Publication is important in determining the duration of copyright.²⁵ The Copyright Act refers to “publication” at s.29:

29. (1) Subject to this section, for the purposes of this Act:

(a) a literary, dramatic, musical or artistic work, or an edition of such a work, shall be deemed to have been published if, but only if, reproductions of the work or edition have been supplied (whether by sale or otherwise) to the public;

The expression ‘supplied to the public’ is not defined in the Act and to date Australian courts have not had an opportunity to express an opinion as to its meaning. However, in the

Copyright Act of 1956 (UK), Section 49(2), the phrase ‘issued to the public’ was discussed in obiter dictum of Neville J in *Francis Day & Hunter -v- Feldman & Co* [1914] 2Ch728 at 731:

“Issued to the public can mean no more than an invitation or a right to the public to acquire copies. . . issued to the public can mean no more than having them on sale. You need not advertise and you need not call the attention of the public to the fact that you have published, if you are prepared to sell on demand. Here, the moment there came a demand they fully satisfied it.”

From this decision it would appear that one of the crucial issues in regards to what is the meaning of publication is the element of supplying on demand.

CD ROMs

In the case of a database which has been reduced to a CD ROM, the question of when is the work published can be answered quite simply. Publication, is defined as when the goods have been ‘supplied (whether by sale or otherwise) to the public’. In this instance if the database has been supplied to the public in the form of CD ROM’s the date of publication therefore is the date of supply to the public.

On-Line Databases

The on-line database faces some unique problems in its quest for protection under the Copyright Act 1968. In establishing an online database, that is a database which can be accessed via the Internet, the information that makes up the database may be segmented into parts and stored across the world on various computers. Each user is typically only accessing a small part of the overall database. Therefore there is not a reproduction of the database and it is a requirement under the Act that more than one reproduction has to be supplied to the public before the work is considered published.²⁶ Even if one particular user did down-load the entire work, a

publication without authority off the copyright owner would not be considered publication under the Act.²⁷ The problem therefore lies in the definition of the publication. In order to address this problem the definition should be amended removing the requirement that 'reproduction' of the work are to be supplied to the public. The access of the public to one copy by means of an electronic retrieval system²⁸ should be adequate for publication²⁹ as it seems to be in the spirit of the Act that it is the supply on demand which is the important factor.

The other major problem with the on-line database is that they tend to be dynamic databases. They are continually being up-dated and may be forming new "links" to other sources of information. This brings one back to the problem of when is the work made? If the work is changing continually then does the databases obtain a series of copyright for each version or update of the databases?

Hey, you.... that's my work!

We have a "substantial" problem.

Copyright is merely a "paper tiger" unless something can be done when there is an infringement. The problem with infringement is partly the way the Copyright Act looks at infringement. An infringement may be direct³⁰ or indirect³¹. The Copyright Act requires that a substantial part³² of the work to be taken in order for there to be an infringement. What is a "substantial part"? It is rare for an 'infringer' to extract the whole database, it is more common for only parts of the database which are required. It is debateable as to whether the parts which have been taken from the database would form a substantial part of the work. The Act gives no guide to what is meant by "substantial". However, case law does give some guides for consideration:

- A question of fact to be determined having regard to all

circumstances³³

- Quality rather than quantity³⁴

No protection for facts

Another problem with the factual database is that copyright may exist in the collection and selection of data so that the database as a whole has copyright protection, but this may result in the data itself still being naked of copyright.³⁵

The CLRC

In order to once and for all clear up confusion with the copying from a "hard copy" to a "digital form" and vice versa the CLRC has made the following recommendations:

*Such an amendment should be drafted so as to deem the mere act of conversion of a work or an adaptation of a work from its hard copy human readable form to an electronic form of storage, such as digital, which is machine readable and which, when printed out is unintelligible by reason of consisting of machine readable symbols to be a reproduction of the work or the adaptation.*³⁶

A different approach

The European directive

In cases where a database is not capable of receiving copyright protection due to copyright failing a test of creativity³⁷ the European Commission proposed a directive for a new Unfair Extraction Right, later amended to an Unauthorised Extraction Right as it was thought that there may be some difficulty in deciding what was *unfair*. This new right has also been called a *Sui Generis* right. Essentially it was a progression from the European Commission's 1988 Green Paper.

The Unauthorised Extraction Right does not fit in any of the existing categories of intellectual property rights.

Copyright v Extraction Right

Restricted Acts

Copyright

Reproduction, translation, adaptation, arrangement and any other alteration of the database, the reproduction of the results of any of these Acts, distribution, rental, communication, display and public performance.³⁸

Extraction Right

Unauthorised extraction or re-utilisation from that database, of its contents, in whole or in substantial part for commercial purposes, but such rights are not to apply to the contents of a database where these are works already protected by the copyright or neighbouring rights.³⁹

Term of Protection

Copyright

Generally for literary works 70 years from the death of the author.

Extraction Right

15 years from the date of first availability to the public, or from any substantial change to the database. The concept of substantial change in the directive means successive accumulations of insubstantial additions, deletions or alterations. Therefore if a regular updating of the database (say once every 15 years) results in a substantial modification of the contents then the database may enjoy perpetual protection.⁴⁰

The directive has been adopted by the Council and has a commencement date of 1 January 1988.

Where are we headed?

Pay day?

New forms of technology are developing: multimedia, object-orientated databases and virtual reality look like making things even more doubtful for copyright. Perhaps copyright is not the suitable medium for protection for a database. Perhaps what we should be thinking about are other avenues such as contract law - licensing agreements, where people would pay a fee to access the information.

Then there are social issues which we must consider. The opening remarks of this paper were that the aim of copyright was to encourage, protect and balance. As we move into an age where information is of increasing importance the question of balance becomes more difficult to answer. If the only possible way of offering 'authors' of databases some form of security for their efforts is to resort to the law of contract and have users pay we then are moving into areas of social conscience and freedom of information.

A new way of thinking

Others suggested that the copyright will need to be changed. Dr. Christie in an article called "Towards a New Copyright for the New Information Age"⁴¹ puts forward a very novel way of approaching the headaches caused by technology. He states that we need more than mere "band-aid" remedies - we need a more radical change - a simplification of copyright to two protected subject matters and two exclusive rights.⁴² The subject matter would be the embodiment of a work. A "work" would be defined as "an unembodied form of something capable of being seen or heard, the primary purpose of which is to give instruction or pleasure to humans." The two forms of work could be a "performance" (a transient embodiment of a work) and a "fixation" (a non-transient embodiment of a work). The two exclusive rights could be a "presentation" (a transient embodiment of a Performance or a Fixation made without the consent of the owner of copyright in the Performance or Fixation) or a "reproduction" (a non-transient embodiment of a Performance or a Fixation made without the consent of the owner of copyright in the Performance or Fixation).

The effect of the above changes is that the legislation would be truly "technology neutral" and this is the key to drafting today. Nevertheless, copyright will exist in some form, regardless of the technology.

Matthew James Mullan is a Solicitor with the Sydney office of Tress Cocks & Maddox. He can be reached at ph 61 2 9221 2744.

- ¹ The Copyright Amendment Act 1984, Section 10(1).
- ² Monotti, Anne. "Copyright protection for Computerised Databases", Australian Intellectual Property Journal, August 1992, Number 3.
- ³ Copyright Act 1968, Section 10(1).
- ⁴ Autodesk v Dyason (1992) 66 ALJR 233 at 234
- ⁵ Copyright Act 1968, Section 10(1)
- ⁶ [1964] 1 WLR 273 at 277.
- ⁷ Payen Components South Africa Limited v Bovic Gaskets cc & Ors, Supreme Court of South Africa, 33 IPR 406.
- ⁸ Southern Bell Tel. and Tel. v Associated Telephone Directory Publishers 756F 2d 801, 809 (11 Cir. 1985).
- ⁹ Financial Information Inc. v Moody's Investors Service Inc. 808 F.2d 204, 207 (2 d.Cir. 1986).
- ¹⁰ Feist Publications Inc v Rural Telephone Service Company Inc (1991) 20 IPR 129 at 140.
- ¹¹ Kalamazoo (Australia) Pty Limited v Compact Business Systems Pty Limited (1985) 5 IPR 213 at 233.
- ¹² [1959] Ch 637 at 650-1.
- ¹³ Copyright Act 1968 Section 32(i).
- ¹⁴ Copyright Act 1968 Section 22(i).
- ¹⁵ Copyright Act 1968 Section 10(i).
- ¹⁶ Explanatory Memorandum to the Copyright Amendment Bill 1984.
- ¹⁷ (1986) 60 ALJR 313.
- ¹⁸ (1990) 18 IPR 109.
- ¹⁹ (1992) 66 ALJR 233.
- ²⁰ Apple Computers Inc. v Computer Edge Pty Ltd (1983) 50 ALR 581.
- ²¹ Copyright Amendment Bill 1984.
- ²² (1990) 18 IPR 225 at 234.
- ²³ Auto Desk at 234.
- ²⁴ See comments on P.11 re TRIPS
- ²⁵ Copyright Act 1968, Section 32(2)(a) and Section 33(3).
- ²⁶ S Ricketson, The Law of Intellectual Property, The Law Company Sydney 1984 [8.17].
- ²⁷ Copyright Act 1968, Section 33(3).
- ²⁸ Copyright, Design and Patent Act 1988 (UK), Section 175(1)(b).
- ²⁹ Anne Monotti, 'Copyright Protection of Computer Databases', Australian Intellectual Property Journal, August 1992, Number 3.
- ³⁰ Copyright Act 1968 s.13(2), 36(1), 101(1)
- ³¹ Copyright Act 1968 s.37, 38, 399(1), 102, 103
- ³² Copyright Act 1968 s.14
- ³³ Blackie & Son Ltd v Lothian Book Publishing Co. Pty. Ltd (1921) 29 CLR 396
- ³⁴ Hawkes & Sons (London) Ltd v Paramount Film Service Ltd [1934] 1 Ch 593
- ³⁵ Feist Publications Inc -v- Rural Telephone Services Company Inc, US Supreme Court 89-1909, 27 March 1991
- ³⁶ Computer Software Protection, Report from the Copyright Law Review Committee, Canberra, 1995. para. 6.55.
- ³⁷ Feist Publications Inc -v- Rural Telephone Services Company Inc, US Supreme Court 89-1909, 27 March 1991.
- ³⁸ Article 6.
- ³⁹ Article 10.2.
- ⁴⁰ Article 12.1, Council Directive on Legal Protection of Databases: COM(93)464.
- ⁴¹ Dr. Christie, A. "Towards a New Copyright for the New Information Age", Australian Intellectual Property Journal, August 1995, Number 3
- ⁴² Dr. Christie, A. "Towards a New Copyright for the New Information Age", Australian Intellectual Property Journal, August 1995, Number 3.