CURING THE AUTHORLESS VOID: PROTECTING COMPUTER-GENERATED WORKS FOLLOWING *ICETV* AND *PHONE DIRECTORIES*

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This article builds on the author's recent article 'The Vanishing Author in Computer-Generated Works: A Critical Analysis of Recent Australian Case Law'. That article explained how recent Australian case law has seriously undermined copyright protection for works which are substantially shaped by software such that they lack a human author. The article argued that such works, if otherwise original, should not be denied copyright protection solely because they are computer-generated. This article thoroughly examines and evaluates three possible reform options: (1) deeming authorship of computer-generated works; (2) classifying computer-generated materials as subject matter other than works; and (3) sui generis protection. This article will also explore the sometimes difficult issues these options generate.

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I Introduction

In an earlier article (hereafter, '*Part 1*')[1] the author discussed how *IceTV Pty Ltd v Nine Network Australia Pty Ltd* ('*IceTV*'),[2] *Telstra Corporation Limited v Phone Directories Co Pty Ltd* ('*Phone Directories*')[3] and *Acohs Pty Ltd v Ucorp Pty Ltd* ('*Acohs*')[4] seriously diminish, if not eliminate, copyright protection in computer-generated material ('CGM') which is substantially shaped by software. *IceTV* warned of 'new challenges in relation to the paradigm of an individual author'[5] which particularly affect computer-generated productions such as large, complex databases and compilations, multi-authored productions, autonomously generated art and literature, and productions where it is practically impossible to identify the human authors.

Part 1 argued that where CGM would, but for its authorless status, be a copyright work, then copyright protection was necessary, consistent with copyright policy, and realistic in the computer age. Three possible reforms to address the lacuna in protection for such computer-generated works were very briefly outlined in *Part 1*, namely (1) protection of computer-generated works in Part III of the *Copyright Act 1968* (Cth) ('the Act') through an authorial deeming provision; (2) protection of computer-generated 'material' in Part IV of the Act as a new protected 'subject matter'; and (3) completely novel sui generis legislation. This article explores those three possible reforms. Each option is described in detail, the sometimes difficult questions generated by each option are addressed, and responses to those questions explored.

[1] Jani McCutcheon, 'The Vanishing Author in Computer-Generated Works: A Critical Analysis of Recent Australian Case Law' (2012) 36 *Melbourne University Law Review* 917.

[2] (2009) 239 CLR 458.

[3] (2010) 264 ALR 617, affd (2010) 194 FCR 142 ('*Phone Directories (Appeal)*').

[4] (2010) 86 IPR 492, affd (2012) 201 FCR 173.

[5] (2009) 239 CLR 458, 470 [23] (French CJ, Crennan and Kiefel JJ).

II Possible Reforms

The case law discussed in *Part 1* highlights manifold problems relating to absent, multiple and asynchronous authorship in relation to CGM. The same case law also radically narrows the originality standard for compilations.[6] The possible range of CGM is almost limitless, making reform to protect it problematic. *Part 1* concentrated on CGM which, had it been authored, would have been a protected copyright work (hereafter 'otherwise original works'). Reform proposals which also protect *unoriginal* CGM generate more controversial issues, particularly where the social and economic costs of protection outweigh the benefits. The proposed reforms also need to be critiqued against the policy objectives of copyright law explored in *Part 1*, and incidental issues such as duration of protection and copyright ownership must be addressed. The diverse issues at play mean that a holistic approach involving a suite of reforms may be necessary.

The following reform options are explored in this article:

1 Retain computer-generated works in Part III of the Act as 'works', and fictionalise an author through a deeming provision. Complementary reforms include defining a 'computer-generated work' and amending the definition of a 'work of joint authorship' to accommodate multi-authored computer-generated works.

2 Protect CGM in Part IV of the Act as authorless 'subject matter'. Complementary reforms include defining 'computer-generated material' and defining its maker.

3 Introduce sui generis protection, possibly using the European Database Directive[7] as a model.

It is clear that other de facto methods of protection are available to the producer of CGM, including controls effected through contract, technological locks, actions for breach of confidence, and even miscellaneous civil and criminal provisions regulating conduct in relation to computers. However, as

[6] Discussed further in Jani McCutcheon, 'When Sweat Turns to Ice: The Originality Threshold for Compilations following *IceTV* and *Phone Directories*' (2011) 22 *Australian Intellectual Property Journal* 87; Mark Davison, 'Copyright Protection for Compilations: Australia Does a U-Turn' (2010) 32 *European Intellectual Property Review* 457.

[7] *Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the Legal Protection of Databases* [1996] OJ L 77/20.

none of these methods is a sufficiently comprehensive solution[8] to the problems identified in *Part 1*, they are not pursued.

III Option 1: Deeming Authorship of Computer-Generated Works

In the absence of an author in fact, a legislatively deemed author seems a practical solution. The Copyright Law Review Committee ('CLRC') has recommended this course of action.[9] Gummow, Hayne and Heydon JJ in *IceTV* made pointed reference to the lack of a deeming provision equivalent to s 9(3) of the *Copyright, Designs and Patents Act 1988* (UK) c 48 ('UK Act'),[10] which provides:

> In the case of a literary, dramatic, musical or artistic work which is computer-generated, the author shall be taken to be the person by whom the arrangements necessary for the creation of the work are undertaken.

A number of other jurisdictions have adopted a virtually identical authorial deeming provision in relation to computer-generated works.[11] Section 178 of the UK Act provides that:

[8] See, eg, Daniel J Gervais, 'The Protection of Databases' (2007) 82 *Chicago-Kent Law Review* 1109, 1111; Mark J Davison and P Bernt Hugenholtz, 'Football Fixtures, Horseraces and Spin-Offs: The ECJ Domesticates the Database Right' (2005) 27 *European Intellectual Property Review* 113; Edward Thompson, 'Should Australia Adopt a Sui Generis Right for Non-Original Databases?' (2011) 29 *Copyright Reporter* 71.

[9] The CLRC first recommended the adoption of a deeming provision identical to s 9(3) of the *Copyright, Designs and Patents Act 1988* (UK) c 48 in its draft report: CLRC, Parliament of Australia, *Draft Report on Computer Software Protection* (1993) 244–5 [13.08] ('*Draft Report*'), cited in the Committee's final report: CLRC, Parliament of Australia, *Computer Software Protection* (1995) [13.18] ('*Computer Software Protection Report*'). Note also that in a later report the CLRC determined that a requirement of human authorship should be replaced with a consideration of the more 'germane issue' of 'which human should be the one identified as sufficiently associated with the creation or production of the material': CLRC, Parliament of Australia, *Simplification of the Copyright Act 1968 Part 2: Categorisation of Subject Matter and Exclusive Rights, and Other Issues* (1999) 58 [5.45] ('*Simplification of the Copyright Act Report*'). The report further stated, '[t]he concept of a human who "undertakes the creation or production of" copyright material has a degree of similarity to the deemed author of a "computer-generated work", as provided in the UK copyright legislation': at 58 [5.46].

[10] (2009) 239 CLR 458, 494 [98].

[11] Provisions identical to s 9(3) of the UK Act are found in *Copyright Ordinance* (Hong Kong) cap 528, s 11(3); *Copyright and Related Rights Act 2000* (NI) s 21(f); *Copyright Act 1994* (NZ) s 5(2); *Copyright Act 1978* (South Africa) s 1(1) (definition of 'author'). A similar provision is found in the *Copyright Act 1957* (India) s 2(d)(vi), which provides that 'author means … in

> 'computer-generated', in relation to a work, means that the work is generated by computer in circumstances such that there is no human author of the work.[12]

The provision thus fictionalises an author for the purposes of conferring protection.

Given the adoption of this approach in numerous common law jurisdictions and its apparent capacity to ameliorate the problems exposed in *Part 1*, a close scrutiny of this model, and the many questions it raises, follows. The model enacted in the UK will be critiqued.

A *The Originality–Authorship Corollary*

It is worth noting that an authorial deeming provision will not convert an unoriginal work into an original one. The remaining copyright subsistence criteria must be satisfied; in particular the work must be original.[13] However, the provision is interesting in that the primary marker of originality — the author — is necessarily absent, or at least impossible to identify. Thus it seems the criterion of originality would be applied on a hypothetical basis: if the work had been authored by a human, or if that human could be identified, would it be original?

B *Definition of 'Computer-Generated Work'*

The first question is whether the work meets the definition of 'computer-generated', which depends not on a mere difficulty in identifying an author (perhaps among many candidates), but on there being *no* human author.[14] This ostensibly mandates an enquiry which exhausts the possibility of an author. Such an enquiry could require considerable debate and potentially copious evidence relating to the methods of production, the nature of the software, and the roles of the human participants.[15] Whether there is a human author of CGM is the very question explored extensively in *Part 1*, and, as

relation to any literary, dramatic, musical or artistic work which is computer-generated, the person who causes the work to be created'.

12 Note that s 2 of the *Copyright and Related Rights Act 2000* (NI) defines 'computer-generated', in relation to a work, as that which is 'generated by computer in circumstances where the author of the work is not an individual'.

13 *Copyright Act 1968* (Cth) s 32.

14 Ibid s 178.

15 See, eg, the evidence and its thorough examination by Gordon J in *Phone Directories* (2010) 264 ALR 617 relating to the creation of the telephone directories.

demonstrated in *Part 1*, is difficult to answer given the broad scope of CGM. A deeming provision may not avoid argument on this primary and difficult issue of fact, which reduces its efficacy.[16]

Further, the difficulty with much of CGM is a lack of *evidence* of authorship, rather than a lack of authorship. For example, it was suggested in *Part 1* that the ultimate designers of the compilations in *Phone Directories* may have been authors. These persons may have been overlooked not because they did not exist, but because they could not be identified. Therefore a computer-generated work should be defined as a work lacking an '*identifiable* human author'.[17] The deeming provision would then apply where the sheer complexity of the work and/or evidentiary gaps make determining human authorship simply too difficult or indeed impossible.[18]

In practice, argument on this definitional point is only likely to be robust where copyright ownership depends on the answer.[19] Where ownership does not turn on the issue, argument is likely to be avoided. This is because there

[16] This was recognised by the CLRC in the *Simplification of the Copyright Act Report*, above n 9, 59 [5.47]:

> the types and degree of computer involvement in the creation of copyright material are so varied, that an approach that distinguishes between material created 'with the assistance of' a computer and material created 'by' a computer is likely to prove difficult to understand and apply in practice. The majority of the Committee instead prefers the envisaged approach described herein [the relevant person being the person 'undertaking the creation or production of' the copyright material], since this avoids the need to identify which types of subject matter are 'computer-generated' — a task that might require complex distinctions to be drawn between computer-generated, computer-assisted and other degrees of computer-mediated involvement in the making of copyright subject matter.

[17] Some support for this is found in the CLRC's *Computer Software Protection Report*, above n 9, [13.15]: 'As already noted, one of the features of computer-generated material is that it has no *identifiable* human author' (emphasis added).

[18] Ibid [13.11], where computer-generation was described as 'the circumstance where it is difficult, or not possible, to say that the computer output is the result of the labour of an individual or individuals'.

[19] Once the deemed author is identified, he or she would ordinarily be the copyright owner (*Copyright Act 1968* (Cth) s 35(2)) unless an exception applies (in most cases, the employee exception in s 35(6)). This would bring the ordinary problems of ownership as well. Thus, if the person making the arrangements was a third party contractor, he or she would still be deemed the author and thus ostensibly the owner, in the absence of alternative contractual arrangements. The definition may also be debated if a connecting factor turns on its interpretation. However, the reciprocal protection provisions of the *Berne Convention* make this a less pressing issue: *Berne Convention for the Protection of Literary and Artistic Works*, opened for signature 14 July 1967, 828 UNTS 222 (entered into force 29 January 1970).

will either be a natural author, or a deemed[20] author.[21] Since in either case there will be an author, there seems little point arguing about whether the degree of human mental effort was sufficient to confer authorship.

C *Who 'Undertakes the Arrangements Necessary' for the Creation of the Work?*

The critical and difficult task, in the various scenarios discussed in *Part 1*, is identifying the person who 'undertakes the arrangements necessary'[22] for the creation of the work (hereafter 'relevant person'). That person will be the deemed author (and very often the copyright owner).

One preliminary question requires discussion. Can the relevant person be a corporation? While the UK Act contemplates non-human authorship,[23] the Act would require amendment to facilitate this. While for the purposes of Part IV subject matter, a 'qualified person' may be a corporation,[24] other provisions of the Act strongly imply that the author of a work must be human.[25] While corporate authorship may have advantages in this model, discussed further below, it would require a broader suite of amendments to the Act.

The deeming provision requires reflection on the 'arrangements' involved in the creation of a computer-generated work, and whether they are 'necessary' to its creation. 'Arrangements' are preparations,[26] requiring necessary organisation so that something else can happen. 'Necessary' suggests the ar-

[20] There may then be robust argument as to who the deemed author is, discussed below, particularly if it means the claimant is not the copyright owner.

[21] See, as an example from South Africa: *Haupt v Brewers Marketing Intelligence (Pty) Ltd* (2006) 4 SA 458, 471 [31] (Streicher JA) (Supreme Court of Appeal): 'a work qualifies as having been computer-generated if it was created by a computer in circumstances where there is no human author of the work. If there is a human author, the work is computer assisted and not computer-generated.'

[22] *Copyright Designs and Patents Act 1988* (UK) c 48, s 9(3).

[23] Ibid s 154(1)(c). As does the United States 'work for hire' doctrine. The work for hire doctrine provides that copyright in a work prepared by an employee within the scope of his or her employment or a work specially ordered or commissioned for certain defined uses is owned by the employer or commissioner. See the definition of a 'work made for hire' in *Copyrights*, 17 USC §101 (2012). See also the clarification that ownership of the copyright work resides with the employer/commissioner: *Copyrights*, 17 USC §201(b) (2013).

[24] *Copyright Act 1968* (Cth) s 84 (definition of 'Qualified Person').

[25] Ibid s 32(4). The duration provisions also rely on the *life* of an author, discussed further below.

[26] Susan Butler (ed), *Macquarie Dictionary* (5th ed, 2009) 58.

rangements cannot be dispensed with.[27] Since computer-generated works are not homogeneous, each inquiry will unavoidably be fact-specific. However, the possible candidates include the person:

a) commanding the software to run;

b) instructing or training that person;

c) designing the desired form of the output;

d) selecting or customising the software to fulfil their or another's design;

e) intending to create the work;

f) arranging any of the above conduct by others;

g) who owns the computer systems, and/or who owns the software;

h) investing in the creation of the work (who may also be the person or persons in any of a–g above);

i) who writes the software (who may also be the person or persons in any of a–h above); and

j) who is a combination of any of these persons.

Arguably, each of these candidates makes arrangements, in the sense of making preparations, or organising, and each arrangement is causally necessary because the work would not be created without it. Similar candidates were contemplated in the *Draft Report on Computer Software Protection* of the CLRC.[28]

The deeming provision assumes there is no 'authorial' effort in computer-generation which deserves acknowledgement. Therefore, its rationale is more about conferring copyright ownership on or through the relevant person. Thus in practice, nominating the relevant person from a competing field will be less important where all candidates make arrangements as employees of the same employer,[29] or where they have assigned copyright to the same per-

[27] Ibid 837.

[28] These were '(a) the programmer or owner of the copyright in the programs that assisted in creation of the work; (b) the provider of the data; (c) the user of the computer/computer program; or (d) the investor or owner of the computer/computer program': CLRC, *Draft Report*, above n 9, 243 [13.04] cited in CLRC, *Computer Software Protection Report*, above n 9, [13.19].

[29] This is since s 35(6) of the *Copyright Act 1968* (Cth) provides that ownership would vest in the author's employer in that case.

son. As mentioned above, the identity of the deemed author will be contested strenuously where ownership turns on the issue.

The following factors appear relevant when classifying the arrangements, the importance and relative weight of which may vary depending on the type of work created:[30]

1 Intention to create the work. This involves asking who wanted the work — who instigated the work with the intention of creating it?

2 Proximity to the act of final creation. This involves asking when the arrangements occur in the chain of creation. It is suggested that acts that are distant from the final materialisation are less likely to be sufficiently *preliminary* arrangements. This would most likely exclude programmers as appropriate candidates.[31] The act of programming may occur many years before the work employing the software is created. Mere programmers lack sufficiently *direct* intention to create the work. They know their software will produce a work, but that is significantly different to intending to produce it. Insofar as copyright is conferred as an incentive to create, the reward for programmers should be for the software, not the works derived from it. Indeed, ordinarily, the author of a derivative work will obtain copyright in the work, the source work author perhaps having a claim for copyright infringement but not an ownership or authorship claim in the infringing work. If deemed to be an author, programmers may also then be the owner, which may be inequitable since they have already been rewarded (or may have freely licensed the software). The likely exclusion of the programmer from consideration as the most suitable candidate is also consistent with existing jurisprudence denying the programmer natural authorship of the output.[32]

[30] For example, an investment criterion may be far more relevant to the production of satellite-generated photographs of the Earth, whereas more 'creative' arrangements impacting the shape of the work will be more relevant to computer-generated art.

[31] At the very least, it would exclude those whose sole contribution is as programmer of the software. For example, if the programmer was also another candidate, he or she retains relevancy in that capacity.

[32] In *Acohs* (2010) 86 IPR 492, 512–13 [53], Jessup J rejected the argument that the authors of the generated code were the programmers who wrote the software which caused its generation, since they understood what the source code would look like, stating:

> it would be artificial to regard the programmers as involved in the task of writing the source code for thousands of [safety data sheets] yet to take a material form merely because they wrote, and amended, the program which, when prompted, would put together

3 The extent to which the arrangements shape the form of the work (design input). These arrangements, being directed to the particular material expression of the work, are more authorial. If a person shaping the form of the output has been identified, then the deeming provision would not apply since that person would be the author. Further, conduct which shapes the material form of a work is less likely to be an 'arrangement' preparatory to the act of creation, and more likely to be an act of creation itself. Thus, these candidates are more likely to be either excluded or at least subordinated to other candidates. However, the person selecting the software that shapes the ultimate form of the work may be considered a candidate.

4 The extent to which the arrangements are responsible for the materialisation of the work. This includes users and those who are commanded to operate the software. Commencing and prosecuting the automation process is a direct and highly relevant arrangement, clearly necessary to the creation of the work, and is consistent with the importance of the conventional author's role as material fixer. However, this type of scenario could award authorship (and thus potentially ownership) to a mere 'button pusher'. It may also be incongruous to reward the fixer when the deeming provision focuses on arrangements necessary *for* the fixation. In other words, the actual creation and the arrangements preparatory to it are different conduct, though clearly both part of the process leading to the final creation.

5 Investment. This asks who paid for the work. Given that authorship generally leads to ownership, the criterion of investment in the work should be critical. It seems equitable to allocate authorship to the person paying for the work.[33] This may also be most consistent with the policy objectives for conferring copyright, discussed in *Part 1*, since that person is, practically, the one who provides the social and other benefits of the work. This approach concentrates on investment *in the work*, which would exclude consideration of the investment by the software author where that author did not employ the software to produce the actual work.

a selection of the fragments of source code which they did write with other fragments later contributed by the authors.

[33] See *Slater v Wimmer* [2012] EWPCC 7 (16 February 2012) [15] (Judge Birss) for a discussion of almost identical wording in the UK Act, in the context of a dispute relating to film copyright: 'In practice the English rules of equity are also important'. In that case, discussed further below, person A agreed to pay the expenses of person B to come on an adventure trip if in return person B shot the film footage of the trip.

D *Analogous Guidance from Film and Sound Recording Authorship*

Virtually identical wording to the UK deeming provision has been used to determine ownership and authorship in films[34] and sound recordings, and it therefore seems pertinent to examine how that phrase has been interpreted in those contexts.

1 *Interpretation of the Phrase in Australia*

In Australia, films are subject matter other than works and thus are not authored.[35] The 'maker' of a film 'is the person by whom the arrangements necessary for the making of the film were undertaken'.[36] A film is made when things are done which are necessary for the production of the first copy of the film.[37]

The reasoning of the Full Court of the Federal Court in *Seven Network (Operations) Ltd v TCN Channel Nine Pty Ltd*, broadly followed Lahore's argument that the relevant person is 'generally the producer who makes the financial or administrative arrangements for the production of the first copy of the film'.[38] Ricketson and Creswell regard the definition as 'more open-ended', noting that the arrangements 'could include the business and financial arrangements that are necessary for the production of the first copy as much as the actual physical acts involved in its making, such as the direction, shooting and editing'.[39] However, they concede that '[i]n film industry practice,

[34] *Copyright Act 1968* (Cth) s 22(4)(b); *Copyright, Designs and Patents Act 1988* (UK) c 48, s 9(2)(ab).

[35] Unlike in the UK, where no distinction is made between works and other subject matter: *Copyright, Designs and Patents Act 1988* (UK) c 48, ss 1, 5B, 9(2)(ab). Similarly, in the US 'motion pictures' are 'works of authorship': *Copyrights*, 17 USC § 102 (1976).

[36] *Copyright Act 1968* (Cth) s 22(4)(b).

[37] Ibid s 22(4)(a).

[38] See *Seven Network (Operations) Ltd v TCN Channel Nine Pty Ltd* (2005) 146 FCR 183, 186–8 [12]–[19] (Lindgren J) citing James Lahore, *Copyright and Designs* (Butterworths, 3rd ed, 1996) [20,145]. See also *Seven Network (Operations) Ltd v TCN Channel Nine Pty Ltd* (2005) 146 FCR 183, 200 [89] (Finkelstein J), 208–10 [113]–[121] (Edmonds J in dissent). This approach was followed in *Wills v Australian Broadcasting Corporation [No 3]* (2010) IPR 252, 258 [29], [31] (Gilmour J). However, Gilmour J notes that s 98(4) of the Act appears to allow for the possibility of there being multiple 'makers' of a film, through its reference to 'each director': at 258 [28].

[39] Staniforth Ricketson and Christopher Creswell, *The Law of Intellectual Property: Copyright, Designs and Confidential Information* (at Update 65) [5.45].

this would mean the producer of the film, rather than the camera operator or director.'[40]

While these brief statements fail to acknowledge that some principal producers[41] perform more creative roles,[42] Lahore's definition focuses on the business *or* administrative function of the producer, and thus the relevant person is more likely to be (or at least to include) the 'business' producer who raises the money and organises most aspects of the actual making of the film.

Reflecting a policy of rewarding the investor, the copyright in a commissioned film is owned by the commissioner, irrespective of who made it,[43] and an employer owns the copyright in any film made by an employee director.[44]

2 *Interpretation of the Phrase in the United Kingdom*

An identical definition has been utilised in the UK Act. Since December 1996, the film's producer and the principal director are together deemed an author.[45]

[40] Ibid.

[41] A host of subordinate producers may fill the credits of many movies — executive producers, line producers, co-producers, and assistant producers, however, it is likely the principal producer will be the one who really gets the film made.

[42] The lead producer may be a 'business' or a 'creative' producer, see Rick Schwartz, 'What Do Movie Producers Do? A Movie Producer Explains' on *Grantland* (3 November 2011) <http://www.grantland.com/blog/hollywood-prospectus/print?id=36634>:

> The former either finds the money or is able to navigate the tricky ins and outs of movie accounting, whether it's in conjunction with a studio or with an independent company. The latter works closely with the director on the script, casting, editing and music in the film.

[43] *Copyright Act 1968* (Cth) s 98(3). Thus, where the fact of commissioning can be established, the maker of the film has no claim to copyright.

[44] Ibid s 98(5). In narrow circumstances, a director may be a maker of a film together with the maker as defined in s 22(4)(b). The film must be non-commissioned, and the director must not make the film as an employee (ss 98(4)–(5)), as introduced by the *Copyright Amendment (Film Directors' Rights) Act 2005* (Cth). However, the copyright is very limited. The director (or the director's employer) becomes the owner of the copyright only so far as the copyright consists of the right to include the film in a retransmission of a free to air broadcast: *Copyright Act 1968* (Cth) s 98(6).

[45] *Copyright, Designs and Patents Act 1988* (UK) c 48, s 9(2)(ab). Prior to that, s 9(2)(a) of the UK Act provided that the author of a film is 'the person by whom the arrangements necessary for the making of the … film are undertaken'. Section 13(10) of the *Copyright Act 1956* (UK) c 74 was the same provision. The change mandating co-authorship between the producer and director was introduced in response to a Directive of the European Parliament and Council on the harmonisation of the term of copyright protection of, inter alia, literary and artistic works under the *Berne Convention*, as the life of the author plus 70 years: *Council Directive 93/98/EEC of 29 October 1993 Harmonizing the Term of Protection of Copyright and Certain Related Rights* [1993] OJ L 290/9. Article 2(1) provides that 'the principal director of a cinematographic or audiovisual work shall be considered as its author or *one of its authors*'

While 'director' is not defined, 'producer' is defined as 'the person by whom the arrangements necessary for the making of the sound recording or film are undertaken'.[46] Prior to December 1996, the UK Act reflected the Australian position, and the 'maker' of a film was defined as the relevant person. The fact that the UK Act expressly defines the 'producer' as the relevant person clearly strengthens the interpretation adopted in the Australia context.

In *Re FG (Films) Ltd*, Vaisey J held that the definition of the relevant person[47] was 'perhaps a strange collocation of words which might in other circumstances give rise to some difficulty of interpretation', but that '"[u]ndertake" means … "be responsible for," especially in the financial sense, but also generally.'[48] His Honour held that the applicants acted merely as the nominee of, and agent for, another company which 'financed the making of the film'[49] thus were not the makers.

Adventure Film Productions SA v Tully[50] was an interlocutory motion for delivery up of a film, pending trial of a dispute as to who was the 'maker' of the film. The case was decided under the *Copyright Act 1956* (UK) c 74, s 13(10) of which provided that the relevant person was the maker of a film. Directors of the plaintiff, who at the time included the defendant Mr Tully, conceived the idea for the film and Channel 4 provided the funding to the plaintiff, although the agreement between Channel 4 and the plaintiff gave copyright to the plaintiff. The plaintiff then bore the expenses of the project and organised it. Mr Tully assisted with the project but he then fell out with his co-director. He later claimed he was also a maker because he filmed the footage. Noting that the expenses had been borne by the plaintiff and it had (through its officers) organised the production of the film, Whitford J held that the plaintiff had strong prospects of success at trial and said of the definition of maker:

(emphasis added), thus mandating directors as authors but leaving some latitude to determine co-authors.

46 *Copyright, Designs and Patents Act 1988* (UK) c 48, s 178.

47 The applicants needed to establish that they were the sole maker of a film, who was defined as the relevant person in s 44 of the *Cinematograph Films Act 1938* (UK) c 17.

48 [1953] 1 WLR 483, 485.

49 Ibid 486.

50 [1993] EMLR 376.

> it seems to me quite plain that it was not intended that the person who 'turned the handle', as it would have been at one time, nowadays I suppose 'presses the button', is to be regarded as being the maker of the film.[51]

Beggars Banquet Records Ltd v Carlton Television Ltd ('*Beggars Banquet*')[52] also concerned an interlocutory motion for delivery of a film pending trial of a dispute as to who the 'maker' was. The plaintiff was a record company which commissioned the second defendant to make a video about a 'rave'.[53] Warner J found the two preceding cases of little guidance, being confined to their facts. His Honour accepted 'that the arrangements necessary for the making of a film include the provision of finance for its production',[54] but clarified that the relevant person is 'the person who is directly responsible for paying the production costs rather than the person, who could be a bank, from whom the person so responsible obtains the money',[55] or a commissioner of a film.[56] Warner J attached less importance to arrangements gaining access to locations, or the filming per se where that was a commissioned task.[57] However, he suggested that the second defendant was probably a joint owner of the copyright with the plaintiff.[58]

Mad Hat Music Ltd v Pulse 8 Records Ltd[59] was an interlocutory application concerning a dispute between a singer's manager and a record company. Both claimed copyright in the sound recordings of the singer's performances. As with films, the UK Act deemed the author of a sound recording to be the relevant person. The manager's claim to authorship rested on simply making the singer available for recording sessions. Mervyn Davies J did not rate the manager's prospects of success highly, but permitted the case to go to trial as there was a serious question to be tried.

In *Century Communications Ltd v Mayfair Entertainment UK Ltd*,[60] Era Communications produced a film on the Chinese mainland, which required

[51] Ibid 379.

[52] [1993] EMLR 349.

[53] Note that the *Copyright, Designs and Patents Act 1988* (UK) c 48 does not grant copyright in a film to the commissioner of the film.

[54] *Beggars Banquet* [1993] EMLR 349, 361.

[55] Ibid.

[56] Ibid 361–2.

[57] Ibid 362.

[58] Ibid 363.

[59] [1993] EMLR 172.

[60] [1993] EMLR 335.

the assistance of Century in obtaining the permissions and shooting the film. Sir Mervyn Davies held:

> it is plain to me that the arrangements necessary for the making of the film were undertaken by Era Communications. There would never have been a film had Era Communications not initiated its making and organised the activity necessary for its making and paid for it. To achieve that purpose they had to invoke the help of CCP and that Era Communications did. CCP made no arrangements. They simply helped Era Communications to make the film.[61]

In *A & M Records Ltd v Video Collection International Ltd*[62] the dispute concerned ownership of copyright in a sound recording of musical arrangements required for performances by celebrity ice-skaters, Torvill and Dean. The two possible relevant persons were Mr Ross (a conductor) and Mr Pullen (Torvill and Dean's agent). Pullen and Ross agreed that Ross would set up a studio and musicians at Ross's expense in return for a fee that would enable Ross to make a profit. Ross commissioned and paid for the musical arrangements; booked and paid for the recording studio; arranged, engaged and paid for 51 musicians, a sound engineer and a fixer; and paid all the expenses. Somewhat surprisingly, Sir Mervyn Davies held that Ross was not the person who undertook the arrangements necessary for the making of the recording, but rather Pullen was. Although the 'making of the recording' was the work of Ross, the question is 'who undertook the arrangements necessary for that making',[63] and that was Pullen:

> Having been told by Torvill and Dean what they wanted, [Pullen] set about seeking a musician who was suitable for the task of making sound recordings suitable for use at the skating championships. He found Mr Ross. He made an agreement with him that Mr Ross would set up a studio and musicians at his (Mr Ross's) expense in return for a fee that would enable Mr Ross to make a profit for himself. It was known that the recordings proposed would be used not only at the skating championship but also in the course of compiling a CD for sale to the public.[64]

In granting sole copyright to Pullen, the decision is surprising because it appears contrary to Warner J's clarification in *Beggars Banquet* that the rele-

[61] Ibid 342.

[62] [1995] EMLR 25.

[63] Ibid 32 (Sir Mervyn Davies).

[64] Ibid.

vant person is 'the person who is directly responsible for paying the production costs rather than the person … from whom the person so responsible obtains the money',[65] or a commissioner. In *Beggars Banquet*, Warner J foreshadowed that the commissioned film maker could be a joint author of the film.[66] On the same basis, Ross should at least have a claim to joint authorship as producer, particularly since the financial risk was born by him.

Bamgboye v Reed[67] applied the current provisions of the UK Act in the context of a sound recording. The UK Act now defines the creator and author of a sound recording to be the producer,[68] namely the relevant person. The sound recording in this case was made by making a copy of an existing recording of a song. Mr Reed decided that further editing, recording and mastering of the recording were necessary, although Mr Bamgboye considered it finished. The additional work took place at Bamgboye's parents' home. Reed supplied a tape of the song and a machine to play its major musical component. Bamgboye made a copy of the original tape on his parents' computer in their home, which he then edited and mastered. Judge Williamson referred to 'various authorities' (clearly including *Re FG (Films) Ltd*) which showed 'in particular, that "undertaking these arrangements" effectively means to be responsible for producing the sound recording in the financial sense or generally.'[69] Given that this was a casual method of production with no 'financial arrangements',[70] the real question was 'who instigated the relevant recording and organised the activity necessary for its making?'[71] Judge Williamson clearly found it difficult to apply the definition, but in the end she held that Reed was the relevant person. He was 'the moving force'[72] and the recording would not have been made without his instigation.[73] The arrangements contributed by Bamgboye were 'subsidiary'[74] and more of an artistic nature.[75] Importantly, Judge Williamson warned against the temptation to 'look at the

[65] [1993] EMLR 349, 361.

[66] Ibid 361–2.

[67] [2004] EMLR 5.

[68] *Copyright, Designs and Patents Act 1988* (UK) c 48, s 178. See also ss 9(1)–(2).

[69] *Bamgboye v Reed* [2004] EMLR 5, 75 [47].

[70] Ibid 86 [86].

[71] Ibid.

[72] Ibid 87 [86].

[73] Ibid 86 [86].

[74] Ibid 87 [87].

[75] Ibid.

separate parts of what was done and simply say there were jointly contributable arrangements.'[76] She considered that the real question was whether

> this recording would have happened if Bamgboye had not been involved, and my answer to that is that it would have happened somehow … On the other hand, would it have happened without Reed's involvement? The answer is "no".[77]

The recent case of *Slater v Wimmer*[78] concerned a dispute about the ownership of copyright in film footage of a skydive over Mount Everest. Mr Slater shot the footage in question and Mr Wimmer was one of the skydivers and paid for the trip including Mr Slater's costs. Both claimed copyright in the film. After considering the existing case law, Judge Birss held that the following principles apply:

> The definition does not simply refer to the person who made the film, it focuses on the person undertaking the necessary arrangements for doing so. … On the other hand one cannot go too far up the chain and away from the film making arrangements. The bank is not the person undertaking the necessary arrangements even if the money all came from a bank.[79]

Judge Birss held that it was wrong to say Slater was the person by whom the arrangements necessary for the making of the film were undertaken simply because he shot the footage.[80] Slater's filming only happened because Wimmer decided to undertake the project and arrange for it to be filmed. Wimmer did not just pay for the event, he also paid costs associated with making the film such as paying (at least most of) Slater's travelling expenses. But Wimmer was not merely the banker, the project was his project. The end result under the post-1996 provisions was that, as the principal director, Slater was deemed joint author with Wimmer as producer.[81]

The UK authorities indicate that determining the relevant person will always be highly fact sensitive.[82] However, some important factors in identifying the relevant person appear to be:

[76] Ibid 87 [88].

[77] Ibid.

[78] [2012] EWPCC 7 (16 February 2012).

[79] Ibid [80].

[80] Ibid [85].

[81] Ibid [86].

[82] *Beggars Banquet* [1993] EMLR 349.

a) who instigated the making of the film[83] — who intended to create the film? This appears more important when no money was expended;

b) who paid for the making of the film, but not merely as a 'bank'.[84] The key factor is financial responsibility for the film;[85]

c) whether there would have been a film but for the instigation and conduct of the relevant person;[86]

d) that more than one person may be the relevant person;[87] and

e) that more 'creative' contributions are less relevant.[88]

3 *Analogising the Definition to Computer-Generated Works*

The arrangements leading to the creation of a film or sound recording may of course be quite different to those leading to the creation of a computer-generated work.[89] However, particularly where numerous individuals create the computer-generated work, an overall organiser of those individuals assumes similar roles to a producer. Further, the broader criteria identified by the UK courts applicable to films and sound recordings are equally applicable to computer-generated works in any context, such as who instigated the creation of the work, who paid for it, and would it have been made but for the putative relevant person? Both the UK and Australian authorities also direct attention away from more 'creative' input, which accords with the UK Act's s 9(3) definition of 'computer-generated work' as a work without an author. They also regard as less relevant the mere materialisation of the film or recording, which is also consistent with a definition focusing on arrangements *preparatory* to the actual making of the work. Therefore, the interpretation of

[83] *Bamgboye v Reed* [2004] EMLR 5, 86 [86] (Judge Williamson).

[84] *Slater v Wimmer* [2012] EWPCC 7 (16 February 2012); *Beggars Banquet* [1993] EMLR 349.

[85] *Beggars Banquet* [1993] EMLR 349.

[86] *Century Communications* [1993] EMLR 335; *Bamgboye v Reed* [2004] EMLR 5, 87 [88] (Judge Williamson).

[87] *Slater v Wimmer* [2012] EWPCC 7 (16 February 2012).

[88] *Bamgboye v Reed* [2004] EMLR 5, 87 [87] (Judge Williamson).

[89] Although it seems clear that films and sound recordings may also be wholly computer-generated, such that there is no author.

a virtually identical phrase in these other contexts should be highly persuasive when construing s 9(3) or an equivalent deeming provision.[90]

E *Judicial Consideration of s 9(3) of the UK Act*

It seems only one case has seriously considered s 9(3) of the UK Act.[91] In *Nova Productions Ltd v Mazooma Games Ltd*[92] the parties were competing manufacturers of electronic pool games. Nova had two directors and principal shareholders, Mr Robinson and Mr Jones. Jones was primarily responsible for designing the games and Robinson was primarily responsible for the commercial and administrative aspects of the business. Nova claimed copyright in the bitmap graphics, and the frames generated and displayed to the user when its game was played, and alleged that its copyright in these artistic works was infringed. Bitmap files are essentially images which 'create a visual effect which is very similar to that of a painting or drawing'[93] (in this case, images of balls, pool cues in various orientations and at various distances to the ball, and a pool table). The bitmap files were created by Jones, 'using various computer tools such as the mouse and on-screen tools such as notional brushes and pencils and the screen colour palette.'[94] These bitmap images are stored in the computer memory.[95] When the game is played, the software then 'builds up composite images by taking, for example, the bitmap image of the table and then overlaying it with images of the balls, cue and the like.'[96] The software causes a series of composite frames to appear onscreen, which creates an impression of movement similar to framed animation. Each of these frames 'is again a composite image and stored in the computer memory.'[97]

Although the bitmap files were artistic works, '[i]t was not suggested that the defendants' games involve a reproduction of any particular bitmap files as

[90] Although note that the only case to consider s 9(3) of *Copyright, Designs and Patents Act 1988* (UK) c 48 did not consider these provisions and their juridical interpretation. It is fair to say, however, that s 9(3) was not carefully considered by that court.

[91] However, the provision was mentioned very briefly in *Bamgboye v Reed* [2004] EMLR 5, 73 [38], where Judge Williamson noted that s 9(3) 'is dealing with the case where one is looking at a piece of music which, in fact, is composed of computerised sounds.'

[92] [2006] RPC 379.

[93] Ibid 398 [101] (Kitchin J).

[94] Ibid.

[95] Ibid.

[96] Ibid 398 [102].

[97] Ibid 398 [103].

such, but rather of the composite frames which are displayed upon the screen.'[98] Thus, the critical issue was whether copyright in the computer-generated composite frames displayed to the user had been infringed. In other words, these computer-generated frames were treated as separate artistic works to the bitmap files themselves. Further, it seems that these composite frames did not come into existence in their particular configuration until their component bitmap images were 'called up' by the software and layered together. That seems to be the reason Kitchin J regarded the *composite* frames to be 'authorless', even though there was clearly a human author of the bitmap files *comprising* the composite image.

This point is arguable. The argument for a lack of authorship is that Jones had no means of predicting the particular configuration of bitmap images in any given frame. That depended on how the game was played. However, the composite frames would always be a combination of bitmap images authored by Jones, and thus his mind and will directs the shape of the computer-generated composite image. Nevertheless, as suggested above, with a deeming provision such as s 9(3) there seems little benefit in arguing the point, particularly since Jones was an officer and employee of the corporate copyright owner. Kitchin J thus relied on s 9(3) and concluded:

> In so far as each composite frame is a computer generated work then the arrangements necessary for the creation of the work were undertaken by Mr Jones *because he devised the appearance of the various elements of the game and the rules and logic by which each frame is generated and he wrote the relevant computer program*. In these circumstances I am satisfied that Mr Jones is the person by whom the arrangements necessary for the creation of the works were undertaken and therefore is deemed to be the author by virtue of s 9(3).[99]

Kitchin J accepted that:

> The appearance of any particular screen depends to some extent on the way the game is being played. For example, when the rotary knob is turned the cue rotates around the cue ball. Similarly, the power of the shot is affected by the precise moment the player chooses to press the play button.[100]

However, the player was not the person 'making the arrangements' because

[98] Ibid 397 [98].

[99] Ibid 398–9 [105] (emphasis added).

[100] Ibid 399 [106].

> [t]he player is not … an author of any of the artistic works created in the successive frame images. *His input is not artistic in nature and he has contributed no skill or labour of an artistic kind. Nor has he undertaken any of the arrangements necessary for the creation of the frame images.* All he has done is to play the game.[101]

It is puzzling that Kitchin J did not consider the identical wording in s 178 of the UK Act, or the authorities referred to above in relation to film and sound recording authorship. It is equally puzzling that Kitchin J, when articulating the relevant criteria, referred exclusively to the more conventionally authorial aspects of Jones' conduct — devising the appearance of the various elements of the game and the rules and logic by which each frame is generated, and writing the software — when the provision presumes a missing author. There was no mention of investment or a broader coordination of arrangements. The, perhaps strong, possibility of the company being the relevant person was not explored.

However, the judgment is perhaps unsurprising and appropriate on its facts. Neither subsistence in, nor ownership of, the artistic works was contested, and thus Kitchin J did not comprehensively consider s 9(3), applying it only in the process of identifying the copyright works at issue. Further, while his co-director, Robinson, undertook essential arrangements with respect to the broader financial administration of the company, and shared the intention to make the game, Jones essentially undertook all relevant arrangements leading to its actual creation. As a shareholder, he also co-owned the software and the machines in which the software functioned, as well as the company which supplied the funding to make the game. Apart from the company and Robinson, the only other candidate, the user, merely plays the games. Thus, merely being causally responsible for the final trigger creating the work (playing the game) cannot be equated with 'making arrangements'. Note that the statute does not use the words 'cause the work to be created', but deliberately adopts the phrase 'making arrangements necessary for the creation'.

However, the judgment needs to be treated with caution if it suggests *all* programmers are necessarily the persons making the arrangements simply because they wrote the software. Jones' position can be contrasted with the author of, for example, MYOB software, who has no direct relationship with or control over the accounts created through the use of the software. It would be incongruous to suggest the author of such 'off the shelf' software 'makes arrangements' to create, through the agency of remote purchasers, a multitude

[101] Ibid (emphasis added).

of works at some possibly distant point in time. That phrase contemplates more immediate steps leading to production, hence the importance of proximity.

When interpreting 'making arrangements necessary for the creation' one should also consider the intention of the various candidates. In the above example, the MYOB author in truth makes arrangements, and intends to, sell software, whereas the user/owner makes arrangements, and intends to, create works.

F *Application of a Deeming Provision to Various Computer-Generated Works*

Depending on the facts, there is sufficient flexibility in the provision to accommodate a range of candidates as the deemed author, and it would be imprudent and unnecessary to nominate only one for all circumstances. Instead, all relevant factors should be considered and balanced against each other. While it may be convenient to have greater consistency and predictability with a 'bright-line' rule, a case by case consideration may be the only possible approach.

For example, in the case of the generative art discussed in *Part 1*, the user may be the only appropriate candidate. The user intends to create the work, and instigates its creation by commanding the software to run. The user may also be the investor if the generative software was purchased. The user makes all 'necessary' arrangements, including those most proximate to the act of materialising the work. This may be the preferable approach given the importance of materialisation in conventional authorship jurisprudence.[102]

On the other hand, if the user is simply someone pushing a button, then other factors assume greater importance. For example, a private contractor relieving a sick employee and told to 'push this button at 3pm and tell me if the red warning light goes off while the system is running' would not seriously be the relevant person. In that instance, it is more sensible to deem the owner of the system the author, especially if the owner originates the idea for, and intends to, create the work.

In the case of partly computer-generated works which are substantially, though not wholly, shaped by software,[103] then arrangements which contrib-

[102] See Pamela Samuelson, 'Allocating Ownership Rights in Computer-Generated Works' (1986) 47 *University of Pittsburgh Law Review* 1185, 1202, 1224–8.

[103] See generally *Part 1* for a discussion of partly computer-generated works. This assumes such a person was not sufficiently responsible for the particular material expression of the com-

ute to the design of the ultimate output may gain precedence. In that case a software selector or customizer may be the deemed author. This accords with the importance in conventional authorship jurisprudence of human intellectual input directed to the final form of the output. It may be telling that the UK Act mandates that the principal director of a film be a joint author.[104] While the 'principal director' is not defined, he or she is generally regarded as the person with creative control of the making of the film.[105]

1 *Special Issues with Respect to Multi-Party Works*

Larger and more complex compilations are problematic under the proposed deeming provision, because:

a) the chain of production is longer and more complex;

b) the arrangements along that longer and more complex chain are usually undertaken by many people performing different roles; and

c) the number of people involved may make identifying the relevant person or persons and the arrangements they undertake difficult, if not impossible.

Who in these circumstances is the relevant person? It seems particularly apposite to large, complex productions that multiple individuals performing different roles may in fact make the necessary arrangements.[106] It should follow that more than one person can be deemed an author. The singular reference to 'the person' in the definition is not decisive.[107]

It may therefore be appealing to deem as author the corporate or natural person ultimately making the arrangements for engaging the individuals participating in the creation of the work. This may often be the investor, or at least an employee of the investor. It is less likely to be a third party unrelated

puter-generated work to 'in fact' be identified as an author. If that was established, as discussed above, the deeming provision would not apply and such person would be considered the author under conventional authorship principles.

104 *Copyright, Designs and Patents Act 1988* (UK) c 48, s 10(1A).

105 Hugh Laddie, Peter Prescott and Mary Vitoria, *The Modern Law of Copyright and Designs* (LexisNexis Butterworths, 4th ed, 2011) 429 [7.41], approved in *Slater v Wimmer* [2012] EWPCC 7 (16 February 2012) [72] (Judge Birss).

106 And indeed, perhaps this is why under the UK Act a film is necessarily treated as a work of joint authorship between the producer and the principal director (unless they are the same person): *Copyright, Designs and Patents Act 1988* (UK) c 48, s 10(1A).

107 Section 23(b) of the *Acts Interpretation Act 1901* (Cth) provides that 'words in the singular number include the plural', and any Australian provision could clarify that.

to the investor. This has the advantage of encompassing under the umbrella of that ultimate arranger both employees and third parties, thus avoiding the possibility of copyright ownership being allocated to a third party making no financial contribution to the production. It also eases the evidentiary burden of identifying all the parties who could be deemed authors, and avoids the difficulty of fitting the jointly produced output into the definition of a work of joint authorship, discussed further below.

Unlike the United States' work for hire doctrine,[108] or the Australian employment ownership exception,[109] there need be no contractual arrangement between this ultimate organiser and the contributing individuals working under him or her. However, the person must be said to make the necessary arrangements for the creation of the work. This supervisory conduct is more distant from the final act of creation because, in effect, the person arranges the arrangements. However, that may be just the type of conduct envisaged by the statute wording. Note, in particular, that the relevant conduct is to *make arrangements* necessary for the creation of the work (implicitly by someone else), not to *create the work* per se.[110] Thus, the section seems deliberately targeted at the person who stands above the materialiser.

Further, deeming this umbrella 'arranger' the author satisfies many of the factors enumerated above, particularly if the person also paid for the work, intended to create the work, designed the work (or, in the case of a corporation, its employees or contracting parties did), and owned the machines and/or the software generating the output. Thus, there is merit in deeming, in the right circumstances, such an overarching organiser as author. Where the output is in truth a work of joint authorship by one or more such persons, the deeming provision should also accommodate deemed joint authorship of the output, even between corporations and individuals.

G *Duration of Copyright under a Deeming Provision*

Ordinarily, the duration of a copyright work is governed by the life and death of individuals. If the work is published before the death of its author, duration is determined by the life of the author, and the author who died last if there

[108] See generally the brief discussion of work for hire doctrine in above n 23.

[109] *Copyright Act 1968* (Cth) s 35(6).

[110] See *Slater v Wimmer* [2012] EWPCC 7 (16 February 2012) [80] (Judge Birss): 'The definition does not simply refer to the person who made the film, it focuses on the person undertaking the necessary arrangements for doing so.'

are multiple authors.[111] Where the author died prior to publication, duration runs from the first date of publication, however, duration is still reliant on that author's death.[112] This is consistent with the *Berne Convention for the Protection of Literary and Artistic Works*' ('*Berne Convention*') pre-computer age requirement that duration be determined by the life of the author in the case of literary, musical and dramatic works.[113] In respect of artistic works, the *Berne Convention* stipulates that duration can be based on the date the work was made.[114]

Where the deemed author is a natural person, these provisions can continue to apply. However, deemed corporate authorship requires modification of the duration provisions and may raise issues about *Berne Convention* compliance. An option is to determine duration by date of first publication. The UK Act determines duration based on the date the work was made.[115] While this may impose a higher evidentiary burden, since the creation date is usually less clear than a date of death, it may be the only workable solution. However, given that the computer-generated output is still a 'work' (albeit with a fictional author), this would apparently mandate compliance with the *Berne Convention*. One could argue that Option 1 creates a new category of work, a 'computer-generated work', which is not governed by the *Berne Convention*, permitting customised treatment of duration. In short, the duration of computer-generated works, and the means of fixing duration, will require careful consideration both on policy grounds and in the context of Australia's international obligations.

[111] *Copyright Act 1968* (Cth) s 33(2). The duration of protection for a literary, dramatic, musical or artistic is the life of the author plus 70 years. Section 80 provides that the references in s 33 to the author of a work shall, in relation to a work of joint authorship, be read as references to the author who died last.

[112] Ibid s 33(3): if a literary work (other than a computer program) or a dramatic or musical work is unpublished at the death of the author, the duration of protection is ordinarily 70 years after the date of first publication.

[113] Opened for signature 14 July 1967, 828 UNTS 222 (entered into force 29 January 1970) art 7(1).

[114] Ibid art 7(4).

[115] *Copyright, Designs and Patents Act 1988* (UK) c 48, s 12(7). Note that copyright protection of computer-generated works is limited to 50 years from the year the work was made.

H *Moral Rights and Deemed Authorship*

The problem of moral rights arises because only a human can be an 'author' of a work.[116] The proposed deeming provision solves the problem by fictionalising an author. A fictitious author should not enjoy moral rights, which are so inextricably linked to the personality of human authors. No authorial personality is expressed in computerised output. Further, given that the deeming provision may extend to a corporate author, it is inconsistent with existing provisions which deny moral rights to corporations.[117] It is noteworthy that other jurisdictions incorporating a deeming provision exclude moral rights in respect of computer-generated works.[118]

I *Amend the Definition of a Work of Joint Authorship?*

Where CGM is created by many individuals, it is tempting to argue that it is a work of joint authorship ('WOJA').[119] However, *Part 1* demonstrates the difficulty in identifying an author among the potentially hundreds of humans involved in a multi-party computerised production. In the absence of authors, there can never be a work of joint authorship, rendering the definition[120] of a WOJA irrelevant. However, two questions merit further consideration:

[116] See, eg, CLRC, *Simplification of the Copyright Act Report*, above n 9, 57 [5.43]:

> It is generally accepted that only a human can be the 'author' of a work. This acceptance reflects the historical understanding that works are the products of the human intellect; in this sense it is said works are creations as distinct from artefacts of production. This acceptance also explains the application of moral rights to works but not to other subject matter protected by copyright; only authors need rights to protect their non-economic (ie moral) interests.

[117] *Copyright Act 1968* (Cth) s 190.

[118] See, eg, *Copyright, Designs and Patents Act 1988* (UK) c 48, ss 79, 81, which provide that the right of paternity and the right to object to derogatory treatment do not apply to computer-generated works. See also *Copyright Act 1994* (NZ) ss 97(2)(b), 100(2)(b).

[119] This was the primary argument in *Phone Directories* (2010) 264 ALR 617, 624 [20], where Gordon J was testing the argument that each directory was a single work of joint authorship. Her Honour noted: 'The issue is whether the applicants, on the basis of joint authorship in the directories, have been able to identify the joint authors. This is essential for copyright to subsist in the Works. Manifestly, they have not.': at 683 [333].

[120] *Copyright Act 1968* (Cth), s 10(1) defines a 'work of joint authorship' as 'a work that has been produced by the collaboration of two or more authors and in which the contribution of each author is not separate from the contribution of the other author or the contributions of the other authors.'

- Could the definition of a WOJA be amended to ameliorate these problems affecting multi-party computerised productions (thus reducing the need for a deeming provision)?
- If multiple authors are deemed,[121] must the computer-generated output meet the definition of a WOJA?

1 *Could the Definition of a Work of Joint Authorship be Amended?*

It would be extremely difficult to amend the definition of a WOJA to accommodate multi-party, authorless, computer productions. This is because the critical problem is a lack of authors, whereas the definition of a WOJA assumes their existence. The definition of a WOJA cannot assist in finding authors. It merely conditions what those authors must do for their work to be considered a single work.

In any event, any amendment would need to be carefully considered, since it would apply to all 'works', not just computer-generated works. Further, the presumed policy rationale informing the definition must also be kept in mind. The definition is apparently designed to deliberately narrow and simplify ownership claims and prevent the unwieldy result of potentially hundreds of authors making joint ownership claims to a work. Although the definition is bolstered by ownership rules which limit multiple ownership claims,[122] 'opening up' computer-produced productions to multiple authorship claims undermines the definition's rationale.

2 *Where Authorship is Deemed*

The deeming provision only applies where a computer-generated work has no identifiable human author. It was suggested above that the optimal deemed author of a multi-party production is the overarching producer. In that case we have a work with only one 'author' and the definition of a WOJA has no application.[123]

However, while it may be rare,[124] more than one person may be the relevant person, especially in relation to a large and complex work. In that case,

[121] Assuming a deeming provision is inserted into the *Copyright Act 1968* (Cth).

[122] For example, where the individuals involved are either employees or assignors of their ownership interest. For further detail about employees, see *Copyright Act 1968* (Cth) s 35(6).

[123] This is the case despite the fact that the work is produced by many individuals. It is also consistent with conventionally produced works created by the contribution of many individuals, only one of whom makes a substantively *authorial* contribution.

[124] Particularly if the more appealing and efficacious option of identifying an 'umbrella' arranger is pursued.

we now have multiple authors, presumably of a work. This implies that the work must satisfy the three (exhaustive) statutory criteria of authorship, collaboration and non-separate contributions. The first condition of authorship (albeit fictionalised) is satisfied through the deeming provision. However, the remaining conditions of collaboration and inseparability of contribution — which both concern conventional authorship — must now be applied to the conduct of *arrangers* rather than *authors*. Forcing non-authorial 'arrangements' into a definition concerned with conventional authorial conduct is problematic. Fictionalised deemed authorship is focused on necessary arrangements. Ordinary joint authorship is focused on collaboration and inseparability. Arrangements may or may not involve collaboration, and they may or may not be inseparable. The use of the word 'contribution' may also pose difficulties. While arrangements, broadly interpreted, may be 'contributions' within the meaning of the statutory definition, *IceTV* requires contribution to the material form of the work, not just involvement generally as labour (or 'arrangements').

There are no persuasive policy reasons for compelling fictionalised authors to comply with the definition of a WOJA. It is therefore preferable to separately define a computer-generated WOJA, and to clarify that the existing definition of a WOJA does not apply to a computer-generated work. Suggested amendments to the definitions in s 10(1) of the Act are as follows:

> *a computer-generated work of joint authorship is a work that has been produced by the arrangements of two or more of the persons taken to be the author of a computer-generated work.*

The existing definition of a work of joint authorship should be amended (as indicated in italics) to read:

> A work of joint authorship *(other than a computer-generated work of joint authorship)* is a work that has been produced by the collaboration of two or more authors and in which the contribution of each author is not separate from the contribution of the other author or the contributions of the other authors.

The alternative is to attempt to satisfy the existing definition of a WOJA. The scant judicial guidance on joint authorship of computer-generated works[125] suggests this will be very difficult. In *Telstra Corporation Ltd v Desk-*

[125] The question of joint authorship was not closely scrutinised in *Phone Directories* (2010) 264 ALR 617 or on appeal because the issue was determined based on a lack of identification of those authors and a lack of authorship per se due to the use of computers. At first instance, Gordon J noted that 'given the simple and undeniable fact that the applicants have failed to

top Marketing Systems Pty Ltd ('*Desktop*'), Finkelstein J referred to the 'literally hundreds of appropriately trained or qualified employees who make some contribution towards the production of a telephone directory'[126] and asked '[i]s every employee who contributes to the final product a joint author of the directory?'[127] His Honour responded to his own question: 'These are difficult questions for which there are no ready answers.'[128]

3 *Collaboration by Joint 'Authors'*

There is little judicial discussion of the criterion of collaboration. The Macquarie Dictionary defines 'collaborate' as 'to work, one with another; cooperate, as in literary work'.[129] Several English cases require collaboration and a common design to produce the work.[130] This seems sensible, otherwise it may not be clear what the putative joint authors are collaborating to achieve.

Both *Phone Directories* and the appeal decision suggest the collaboration criterion is unlikely to be satisfied in complex computer-generated works, without fully explaining why. At first instance, Gordon J seriously questioned[131] whether 'the gamut of individuals' working on the directory were collaborating as joint authors, and said '[t]he evidence demonstrated time and again that many of the staff perform their function separately from and often oblivious to the function of others'.[132] However, performing functions 'separately' is not necessarily inconsistent with collaboration, provided that separate work is in pursuit of a common design.[133] The requirement that the authors not be 'oblivious to the function of others' suggests that collaboration requires knowledge of what the other deemed authors are doing. The degree

prove the identity of the authors who contributed to the Works, it is unnecessary to consider [the issue of joint authorship] further': at 684 [337].

126 (2001) 181 ALR 134, 136 [4].

127 Ibid.

128 Ibid.

129 See also Susan Butler (ed), *Macquarie Dictionary* (5th ed, 2009) 275, which defines 'cooperate' as 'to work or act together or jointly; unite in producing an effect'.

130 See, eg, *Beckingham v Hodgens* [2004] ECDR 6, 59–60 [49]–[52] (Parker LJ); *Levy v Rutley* [1871] LR 6 CP 523, 529 (Keating J), 530 (Montague Smith J). See also *Najma Heptulla v Orient Longman Ltd* [1989] FSR 598, 609 (Kirpal J) (High Court of Delhi): 'pre-concerted joint design'.

131 *Phone Directories* (2010) 264 ALR 617, 684 [337].

132 Ibid.

133 See, eg, *Milwell Pty Ltd v Olympic Amusements Pty Ltd* (1999) 85 FCR 436, 446–7 [36] (Lee, von Doussa and Heerey JJ), where the skill and effort of the mathematicians and the employees of Olympic could be separated, but where the Court accepted that the prize scales were nevertheless derived from their 'joint efforts'.

of knowledge is not explained, in particular whether each author must know the detail of what the others are doing, or whether it is sufficient to know that each is working to a common design of producing the directory.

On appeal, Keane CJ agreed with Gordon J:

> The contributions of individuals discussed in her Honour's findings may have been precursors to the compilation of the directories but they were not part of the actual compilation. Moreover, the work of these individuals was not collaborative. It was, no doubt, organised to facilitate the production of the directories but this organisation was not collaboration of the kind contemplated by the definition of joint authorship, and the contribution of each of the groups of individuals referred to earlier was made quite separately.[134]

Whether arrangers (or any persons) collaborate in the creation of a computer-generated work will be a question of fact depending on the nature of the work, and the extent to which the arrangers must communicate and share knowledge of each other's functions. The sheer size and complexity of multi-authored computer-generated works may necessitate division of tasks into distinct elements overseen independently by different arrangers. On the other hand, because a multi-authored computer-generated work is an *organised* assembly of integers, it may also demand conferencing and direct cooperation. Indeed, it would seem impossible to effect such a complicated creation without collaboration between persons who are, in fact, arranging.

However, Keane CJ seems to discount *arrangement* as authorial conduct, in holding that the individual authors' *organisation* 'to facilitate the production of the directories … was not collaboration of the kind contemplated by the definition of joint authorship'.[135] The reasons for this conclusion are not provided, however, the suggestion is that these contributions were too antecedent to the physical production of the directory. In any event, if organisation per se is not collaboration, then it is difficult to see how arrangement is.

4 *Non-Separability of Contributions*

There has also been scant judicial attention to the 'non-separability' criterion. Yates J has said '[t]he precise additional limit intended to be imposed by that requirement is not clear.'[136] One English case suggests that non-separateness

[134] *Phone Directories (Appeal)* (2010) 194 FCR 142, 171 [92].

[135] Ibid. Although clearly the skill and judgement involved in 'arranging' material in a compilation would qualify. The deeming provision discussed in this article is referring to preparatory arrangements for the computer generation of material.

[136] *Dynamic Supplies Pty Ltd v Tonnex International Pty Ltd* (2011) 91 IPR 488, 501 [53].

requires 'not separate interests in parts of a piece, — a joint tenancy, so to speak, in the entire work.'[137] This suggests that the individual contributions should not be perceptible as such (such as separate chapters of a text).[138] However, this may also relate to the manner in which the work is undertaken.[139] This also highlights the close link between inseparability and collaboration, since independent work often leads to discernibly separate form. Whether this factor is satisfied in the context of computer-generated works will, of course, depend on the facts of each case. However, it is more difficult to perceive obvious divisions between the contributions of arrangers in the finished form of computerised multi-party works.[140]

5 *Reform of the Definition of Joint Authorship?*

Clearly, the definition of a WOJA is too restrictive to encompass many modern complex productions created by multiple individuals. Many of the elements of the definition may be considered anachronistic. Are there good policy reasons for continuing to insist on collaboration between the individual authors? Why does joint organisation fall short of collaboration?

Similarly, is it important or desirable that the elements of the joint work be inseparable? Presumably the inseparability requirement is necessary because if the creative effort of the various contributors produces perceptibly distinct works, then separate copyright may subsist, in which case there would be no need for joint authorship (and ownership). However, there is an important difference with respect to computer-generated works. If a conventionally authored work fails the definition of a work of joint authorship due to lack of collaboration, the result will often be a series of single, separately authored works in which copyright subsists. However, with computer-generated works that is unlikely to be the case. Usually one work is created using the automated computer processes. If its 'authors' fail to collaborate and/or their contributions ('arrangements') are separable, then we cannot allocate discrete works to

137 *Levy v Rutley* [1871] LR 6 CP 523, 531 (Montague Smith J).

138 This is '[t]he example often given' of separateness: *Beckingham v Hodgens* [2003] ECDR 6, 59 [46] (Judge Floyd).

139 See, eg, *Fairfax Media Publications Pty Ltd v Reed International Books Australia Pty Ltd* (2010) 189 FCR 109, 134 [101] (Bennett J), where a newspaper article and its headline were found not to be a work of joint authorship. Notwithstanding that, objectively, the distinction between the headline and the content of the article may be imperceptible, Bennett J focused on the separate work undertaken by the author of the headline compared to the author of the article.

140 Compared to the classic examples of separate contributions such as separate chapters, lyrics and music.

each author. If there were joint deemed authors, but those arrangers did not in fact produce a WOJA as defined, then is there simply no work?

J *Conclusions — Option 1*

Option 1 is a workable solution to the problems outlined in *Part 1*. In particular, by fictionalising an author where one is absent, it restores authorship to CGM which would otherwise be a copyright work. This generates issues in respect of corporate authorship, duration, moral rights and possibly joint authorship; however, these are merely issues rather than insurmountable obstacles. They can be resolved with careful consideration, some compromise and drafting.

IV Option 2: Classify Computer-Generated Materials As Subject Matter Other Than Works

The difficulty, or perhaps more accurately, the incongruity, of fitting authorless works into a legislative scheme requiring authors was recognised by the CLRC[141] and by Gummow, Hayne and Heydon JJ in *IceTV*.[142] Given its authorless status, computer-produced material seems more amenable to the 'authorless' domain of Part IV of the Act.[143] That reasoning was accepted by

[141] CLRC, *Computer Software Protection Report*, above n 9, [13.13]–[13.14]:

> A number of submissions received by the Committee following the release of the Draft Report did not support the Committee's classification of 'computer-generated works' as 'works' under the Act … The Committee … notes that while there are a variety of ways in which copyright systems around the world provide protection to the various subject matters they encompass, those materials which are protected as 'works' have a human author.

Similar submissions were made to the CLRC's Simplification Inquiry. See CLRC, *Simplification of the Copyright Act Report*, above n 9, 25 [3.40]:

> The related issue of the protection of computer-generated material (where there is no clearly identifiable human author) provoked similar differing responses. It was argued by some copyright owner interests that such material did not have a requisite degree of originality and could not be protected as an original 'work' and should therefore be protected as Part IV subject matter.

[142] (2009) 239 CLR 458, 506 [145], where their Honours recognised 'the difficulties of adapting the provisions of Pt III of the Act to cases such as the present, where multiple works and authors might be identified and the requisite expression of "authorship" of each may be dictated by a specific commercial objective.'

[143] See, eg, Jane Ginsburg, 'The Concept of Authorship in Comparative Copyright Law' (2003) 52 *DePaul Law Review* 1063, 1070; J A L Sterling, 'Philosophical and Legal Challenges in the Context of Copyright and Digital Technology' (2000) 31 *International Review of Industrial Property and Copyright Law* 508, 513:

the CLRC, which recommended establishing 'computer-generated material' as a new category of Part IV subject matter.[144] Since the CLRC has directly considered this issue, it is useful to critically review its recommendations as a basis for exploring Option 2.

A *How the Scheme Would Work*

1 *Define Computer-Generated Material*

A definition of CGM is required to define the subject matter and clarify that it is not a 'work'. For the reasons explored in relation to Option 1, a definition of CGM which accommodates the extreme difficulty or impossibility of identifying the human authors is preferred. Thus, the following italicised change to the CLRC's recommended definition[145] is suggested:

> 'computer-generated', in relation to computer-generated material, means that the material is generated by computer in circumstances such that there is no *identifiable* human author of the material.

> This is not to say, however, that computer-generated productions in which the creative contribution of the human being cannot be perceptibly identified should have no protection. On the contrary, such productions will normally result from organisational, technological or other investment. That investment should be protected, and it will be normal, and within the existing concepts, to award such productions a related right, the owner of the right being the person who has made the relevant investment.

Unlike Part III works, subject matter protected in Part IV of the Act does not require an author. Instead, copyright subsistence is dependent on, and ownership is conferred on 'makers' of films, sound recordings and broadcasts, and publishers of published editions: *Copyright Act 1968* (Cth) ss 97(2) (sound recordings), 98(2) (films), 99 (broadcasts), 100 (published editions).

144 CLRC, *Computer Software Protection Report*, above n 9, [13.17]:

> Under the Act the neighbouring rights of producers of phonograms (sound recordings) and broadcasters are protected as subject matter other than works. Having regard to this and the reasons given above, the Committee considers that it is appropriate to afford protection, as subject matter other than works, to a new class of subject matter to be described as 'computer-generated material'.

See also CLRC, *Simplification of the Copyright Act Report*, above n 9, 45 [5.05]: 'The majority of the Committee agrees with the general view contained in the submissions it received that there is a fundamental difference between the types of subject matter that fall within Parts III and IV of the Act'.

145 CLRC, *Computer Software Protection Report*, above n 9, [13.18].

2 *Employ a Deeming Provision*

Consistent with other Part IV subject matter, it is necessary to determine who made the CGM and who owns the resulting copyright. The CLRC recommended a deeming provision in virtually identical terms to s 9(3) of the UK Act:

> In the case of computer-generated material, the author shall be taken to be the person by whom the arrangements necessary for the creation of the material are undertaken.[146]

This wording could be utilised, except that 'author' should be replaced by 'maker' to achieve consistency with other Part IV subject matter, and to clarify that the relevant person is not an author capable of enjoying moral rights.

The CLRC clearly regards the 'investor or owner of the computer/computer program'[147] as the relevant person and deserving owner. However, the discussion above in relation to Option 1 questions whether the definition can be dispensed with quite so simply. It is particularly uncertain whether a programmer should be classified as the maker of CGM. It is also questionable whether the CLRC was correct in stating that

> the determination of the issue of who is the person that arranges for the creation of the work/materials should not be any more difficult than determining the identity of the maker of a cinematograph film for the purposes of the Act.[148]

B *Resolution of Problems*

The scheme ostensibly cures a number of the problems identified in *Part 1*. Many of these problems, however, are also cured by Option 1:

1 Both Options 1 and 2 avoid the need to establish human authorship in fact. This is the critical problem affecting CGM and one that was dramatically exposed in *Phone Directories*. Option 1 invents an author. However, Option 2 acknowledges that the material is authorless and therefore not a work, and avoids the 'ruse' of fictionalising an author through a deeming provision. Professor Ginsberg has criticised Option 1 as an 'unfortunate, as well as confusing … conflat[ion of] authorship with vesting of copyright

[146] Ibid [13.21].

[147] Ibid [13.20].

[148] Ibid [13.22].

ownership',[149] and warns that 'an unrelenting equation of the two leads to considerable incoherence'.[150] She supports the role of Part IV in vesting 'ownership in productions whose human input is uncertain, without tricking out the owner in the garb of an author.'[151]

2 With both Options 1 and 2, automation of the output is immaterial.

3 Both Options 1 and 2 simplify ownership, but neither completely avoids the risk of more than one person being deemed author or maker. Option 2 is perhaps superior because the authorless protection in Part IV correspondingly cures the problem of fitting multi-party computer-generated output into the definition of a WOJA, discussed above.

4 Both Options 1 and 2 have the potential to reward the investor, thus supporting an important policy basis for conferring protection on authorless, and often unoriginal, output.

5 Protection in Part IV avoids the difficulty of identifying some CGM as 'works' when they may not fit that definition.

6 In attributing creation to 'makers' of 'material', it circumvents the risk in Option 1 that classifying authorless CGM as a 'work' is contrary to the *Berne Convention*.[152]

7 The critical difference between Options 1 and 2 is that, in eliminating both the 'author' and a 'work', Option 2 will protect both original and unoriginal CGM.[153] Option 2 therefore addresses the main reason for disquiet following the shift away from labour-based protection in *Desktop*. However, it also generates some potentially serious outcomes, which are explored below.

[149] Ginsburg, above n 143, 1070.

[150] Ibid.

[151] Ibid.

[152] CLRC, *Computer Software Protection Report*, above n 9, [13.14].

[153] Originality is not a necessary subsistence condition of Part IV subject matter (provided they are not copies). See CLRC, *Computer Software Protection Report*, above n 9, [13.14]: 'The other requirement for copyright protection is that works of authorship must satisfy some notion of originality ie be the product of some skill and labour on the part of the author'. See also, at [13.16]:

> In so far as these types of computer-generated materials are deserving of protection it seems to the Committee that the protection that they should attract is more akin to that extended to neighbouring rights … One of the characteristics of this type of protection is that there is not the same need for originality.

The main issues that arise in respect of Option 2 can be summarised as follows:

- classifying CGM;
- competition concerns and other issues arising from the breadth of CGM; and
- attenuated rights in Part IV.

There are no major issues with respect to ownership and duration.

C *Classifying CGM*

Option 2 may not avoid the difficulty, explored extensively in *Part 1*, of identifying whether the output is computer-generated or authored material, or partly computer-generated material. Option 1 reduces the practical significance of the debate, because in either case the output is a work, with either a natural or fictional author. However, the question is more pressing in Option 2 because the answer determines whether the output is protected in Part III as an authored 'work' or Part IV as authorless 'subject matter'. In some cases, parties may be prepared to concede the issue. However, if the rights or rules on ownership differ significantly, or there are other benefits to protection under Part III (particularly if the originality of the CGM is questionable), then this issue could be vigorously argued. The competing claims could be, for example, between an alleged author seeking protection in Part III and an 'arranger' seeking protection in Part IV. These may be different people and thus ownership may turn on the issue.

Alternatively, the CGM may not be original, in which case the owner of the CGM will argue it is Part IV CGM and an alleged infringer may argue it is not. Further contention may arise if the output is difficult to classify as a recognised 'work', in which case it may only achieve protection under Part IV. As discussed above, resolving these definitional issues could involve laborious, complex, difficult analysis which requires expensive evidence.[154] Nevertheless, the scheme is an improvement on the current situation which results in an 'all or nothing' outcome. Further, such definitional debates are standard to all contests where a statutory definition must be applied to unique facts.

[154] Which does not seem to have been acknowledged by the CLRC, *Computer Software Protection Report*, above n 9, [13.22]: 'the drawing of a distinction between materials created with the assistance of a computer program and those that are computer-generated is one that will be able to be determined in each case having regard to the circumstances'.

D *Issues Arising Due to the Breadth of the Definition*

1 *Breadth of 'Computer-Generated Material'*

'Computer-generated material' would be the broadest category of protected subject matter under the Act. Given the speed and trajectory of technological development, the category is perhaps immeasurably, and unendingly, broad. Any conceivable material which is substantially shaped by software, or where it is too difficult to establish the human authors in the automation process, would be captured by the term 'computer-generated material'.

This breadth of protected material highlights a major difference between Part III and Part IV protection. The former limits protection to recognisable 'works'. The extensive reach of CGM may therefore be advantageous in avoiding the need to fit new forms of computer-generated creation into existing definitions of a work or Part IV subject matter.[155] Indeed, the breadth of 'material' is so wide relative to the four distinct works that more computer-generated output is likely to be protected under Part IV than Part III. For example, a computer-generated multimedia creation may not be protected as either a 'work'[156] or a film, but would clearly be 'material'. Breadth in itself is not a bad thing, and broad definitions of protected material are embraced in some jurisdictions.[157]

However, the breadth of CGM is also problematic, perhaps insolubly so. For one thing, the term 'material' may encompass both physical and digital material. Computers are now pervasive in manufacturing processes. Are all products processed on an automated production line 'computer-generated material'? Presumably the output of three-dimensional printers would also be 'computer-generated material'. Being a mere copy of the item printed, the

[155] Simplification of the categories of protected subject matter was the focus of recommendations by the CLRC in its *Simplification of the Copyright Act Report*, above n 9. See also Jessup J's comments in *Acohs* (2010) 86 IPR 492, 520 [81]:

> I have difficulty with the concept that a database, as such, might be regarded as a literary work. The problem is not so much whether the database represents a compilation (in the sense of being otherwise disparate elements of data drawn together and organised according to certain rules), but whether a body of data is capable of being regarded as a work in any sense unless and until it has taken a material form.

This suggests that the raw 'body of data' is not itself a literary work and cannot be one until it is assembled into the form of some recognisable work.

[156] The strongest available argument is that it is a compilation (literary work). See *Copyright Act 1968* (Cth) s 10(1) (definition of 'literary work').

[157] See, eg, the French *droit d'auteur* (copyright), which protects any '*œuvre de l'esprit*', or work of the mind, 'whatever their kind, form of expression, merit or purpose': *Code de la Propriété Intellectuelle* [Intellectual Property Code] (France) art L112-1.

three-dimensional version of the item would never qualify as an original work under Option 1. However, without further qualifying amendments, or a definition of CGM which excludes three-dimensional forms, it could be protected under Part IV, where there is currently no express originality criterion.[158]

Perhaps the simplest method of preventing protection of three-dimensional computer-generated material would be to expressly exclude it from the definition. The definition could therefore read:

> 'computer-generated', in relation to computer-generated material *other than material in three-dimensional form*, means that the material is generated by computer in circumstances such that there is no *identifiable* human author of the material.[159]

Alternatively, the design/copyright overlap provisions[160] could be extended to computer-generated material in three-dimensional form.

The breadth of CGM may also raise difficult issues with respect to infringement. While existing works may also be broadly defined,[161] the unknown limits of CGM may make determining a substantial part, for example, quite challenging.

The critical outcome, however, is that the mere fact of material being computer-generated would result in its protection. Protection as Part IV subject matter is considerably broader than that afforded under the European Database Directive.[162] It will arise from the mere fact of creation, without any condition of, for example, substantial investment which is required for protection under the European Database Directive.[163] CGM will also be protected even if it comprises mere information, data, or facts; has negligible or no originality; was created without any substantial investment; adversely affects competition;

[158] Existing provisions only prevent copyright subsisting in *same form* copies of Part IV subject matter. See, eg, *Copyright Act 1968* (Cth) ss 90 (films), 22(3)(a) (sound recordings), 91 and 95 (broadcasts), 92 (published editions). Note also that while the three-dimensional print of the rose would almost certainly infringe the copyright in the painted original, copyright may never the less subsist in the infringing version even if the copyright owner may be denied relief on public policy grounds: *A-One Accessory Imports Pty Ltd v Off Road Imports Pty Ltd [No 2]* (1996) 66 FCR 199, 200–1 (Drummond J).

[159] CLRC, *Computer Software Protection Report*, above n 9, [13.18] (suggested changes in italics).

[160] See *Copyright Act 1968* (Cth) ss 74–7.

[161] Particularly literary works, which are defined inclusively in the *Copyright Act 1968* (Cth) s 10(1) (definition of 'literary work').

[162] *Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the Legal Protection of Databases* [1996] OJ L 77/20.

[163] Ibid.

imposes burdensome social and commercial costs; or unduly restricts access to information. Part IV demonstrates that copyright protection in the absence of originality is not new. However, the concerns outlined above simply do not apply with the same force to existing Part IV subject matter.[164] They may apply to some Part III subject matter,[165] but the originality of such creations, together with a suite of exceptions, is considered to justify and control the copyright reward.

Thus, the practical and policy implications of adopting Option 2 would need to be carefully considered. In particular, if adopted, Option 2 should be supported by an extension to CGM of the design/copyright overlap exceptions[166] and the broader suite of exceptions in relation to works.[167] It may also demand new exceptions, or modifications to the existing fair dealing exceptions, to address concerns about reduced access to information.[168] Indeed, the sheer breadth of the protected subject matter may mandate an equally broad fair use defence, unconstrained by the narrow, defined purposes of the existing fair dealing exceptions.[169] An alternative or additional safeguard may be a compulsory licence scheme to facilitate access to essential information contained in unoriginal CGM. Since a common justification for protecting unoriginal material is the substantial investment in its creation,[170] a subsistence condition of substantial investment in the CGM may also need to be introduced, consistent with the European Database Directive. The White Pages

164 Unless, perhaps, it could be argued that the Part IV subject matter is the only record of information essential to further research or creation.

165 Such as 'thinly' original compilations of facts.

166 The design/copyright overlap exceptions are currently restricted to works. See *Copyright Act 1968* (Cth) ss 74–7.

167 See generally *Copyright Act 1968* (Cth) pt III div 3.

168 See, eg, the concerns of researchers arguing that copyright protection of unoriginal data hampers the generation of knowledge discussed in Australian Law Reform Commission, *Copyright and the Digital Economy*, Issues Paper No 42 (2012) 48–50 [168]–[181].

169 However, the Australian Law Reform Commission is considering 'whether existing exceptions are appropriate and whether further exceptions should recognise "fair use" of copyright material': Ibid [271].

170 See, eg, *Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the Legal Protection of Databases* [1996] OJ L 77/20, recital 11; Chairman of the Committee of Experts, WIPO, *Diplomatic Conference on Certain Copyright and Neighboring Rights Questions, Basic Proposal for the Substantive Provisions of the Treaty on Intellectual Property in Respect of Databases to be Considered by the Diplomatic Conference*, WIPO Doc CRNR/DC/6 (1996) <http://www.wipo.int/meetings/en/doc_details.jsp?doc_id=2487>; Gervais, above n 8, 1111, 1122; Davison and Hugenholtz, above n 8, 113; Thompson, above n 8, 86.

may cost millions to produce[171] and therefore deserve protection from free-riding competitors, but commanding 'robot' software to trawl the internet and produce lists of vendible data may not. Both of these types of CGM would receive the same protection.

The difficulty with the safeguards briefly explored above is that they would apply to both original and unoriginal CGM, whereas they would only be needed with respect to the latter. For example, a criterion of substantial investment may be apposite to a large, expensive, computer-generated compilation, but it may be completely irrelevant to a computer-generated artwork. It would be unwieldy to attempt to separate, within Part IV, CGM into two discrete categories: benign but otherwise original, and troublingly unoriginal material. Some suggested safeguards would also impact on the definition of the relevant person. For example, a criterion of substantial investment would always mean that the investor is the relevant person.

The amount of tinkering required to address the issues explored above, and correctly balance the interests affected by Option 2, suggests that unoriginal CGM must be separately protected. This would entail implementing Option 1 in respect of otherwise original works, and either Option 2 or sui generis legislation (each with a host of safeguards) to capture the unoriginal residue.

2 *Potential for Overlap between CGM and Other Subject Matter*

The breadth of CGM results in its potential overlap with other Part IV subject matter, and with Part III works. Within Part IV, films, sound recordings, broadcasts, and published editions could all be computer-generated. Perhaps such an overlap would be tolerable. In any event, a revised definition of CGM could avoid the overlap by including the following amendment:

> 'computer-generated', in relation to computer-generated material *other than a broadcast, cinematograph film, sound recording or published edition*, *or material in three-dimensional form*, means that the material is generated by computer in circumstances such that there is no *identifiable* human author of the material.

The potential for overlap and inconsistent treatment of substantially identical subject matter between Part III and Part IV requires discussion. For example, a computer-generated image of a rose would be protected in Part IV, whereas an apparently identical hand painted picture of a rose would be pro-

[171] In *Phone Directories* (2010) 264 ALR 617, 639 [72], Gordon J stated that the eventual implementation of the computer system in issue took more than five years and cost in excess of $300 million.

tected in Part III. In each case different ownership rules and exclusive rights would apply. This may not be troubling if the human-authored work deserves superior protection. However, it is interesting to note that this risk of indistinguishable overlap applies to no other Part IV subject matter. This may be a further indication that the breadth of CGM makes it an awkward fit in Part IV.

3 *Computer-Generated Material Compared to Existing Part IV Subject Matter*

A point of difference between CGM and the existing subject matter is that the creations of the latter type are generally consistent in their nature. Films may be wildly different one from the other, however, each is essentially a 'moving picture'.[172] The same applies to the remaining Part IV subject matter. Sound recordings and broadcasts may record and broadcast a vast array of matter, but they are, at the end of the day, broadcasts and sound recordings. CGM, on the other hand, may be any conceivable material which is capable of computer-generation, from a vast and complex database, to a computer-generated picture of a rose, to music. It is notable that a sound recording is not defined as 'sound recorded material'. Neither is a film 'filmed material'. They are their technology, utterly defined by it. Whereas CGM is defined by its technology only in the sense that it is material produced using a certain method of production. The method of production of films and sound recordings is inconsequential — what matters is that a defined thing results. Thus, a sound recording or film will always be defined by its characteristics as a specific type of material, whereas CGM is simply 'material'. Again, this strong point of difference between the existing subject matter and CGM may be tolerable, however, it also may suggest that CGM fits more comfortably in Part III.

CGM also differs significantly from other Part IV subject matter because the latter is generally dependent on underlying works (or some other material if not a copyright work). For example, a film usually has a screenplay; a sound recording must record other works or sounds; a broadcast must transmit data; a published edition is the typographical arrangement of other works. Software may modify existing material, but it may also literally produce material from

[172] See *Copyright Act 1968* (Cth) s 10(1), where 'cinematograph film' is defined as

> the aggregate of the visual images embodied in an article or thing so as to be capable by the use of that article or thing (a) of being shown as a moving picture; or (b) of being embodied in another article or thing by the use of which it can be so shown; and includes the aggregate of the sounds embodied in a sound-track associated with such visual images.

nothing. This may not matter, but again, it highlights a fundamental difference between Part IV subject matter and CGM.

On the other hand, all subject matter are located in Part IV at least in part because of their technological nature, not their content, and so CGM may fit here too for that reason. While CGM may not be a technological thing in the same way that a sound recording is, it is its technological method of production which renders it authorless and thus a suitable candidate for Part IV protection.

Also, Part IV subject matter is not protected in Part IV due only to its technology, or a lack of originality,[173] but also often because authorship is difficult to determine. Films, for example, are authored works under art 2(1) of the *Berne Convention*, but it is the problems caused by a surplus of deserving authors and the need to narrow ownership claims that caused films to be situated in Part IV.[174] Likewise, CGM is often a multi-party creation which raises complex authorship issues, and may be otherwise original,[175] and thus may share more features with Part IV subject matter than first imagined.

Finally, there is already a significant degree of tolerated difference between existing Part IV subject matter. A broadcast is vastly different to a published edition, for example. Therefore, adding CGM to this disparate assortment seems unobjectionable.

E *Exclusive Rights*

Part IV rights are more attenuated than those accorded under Part III. Assuming CGM would enjoy rights consistent with other Part IV subject matter, in the move to Part IV, CGM would lose the right of reproduction but obtain the right to make copies,[176] and lose the right of performance and gain the right to cause the CGM to be seen or heard in public.[177] It would lose entirely

[173] Note, for example, the Spicer Committee in 1959 considered that the making of a sound recording required 'a considerable amount of artistic and technical skill': CLRC, Parliament of Australia, *Report of the Committee Appointed by the Attorney-General of the Commonwealth to Consider What Alterations Are Desirable in the Copyright Law of the Commonwealth* (1959) 48 [241]. However, others see the protection of sound recordings as a means of transferring broadcasters' revenue to producers: see, eg, Gervais, above n 8, 1120 n 47.

[174] Ginsburg, above n 143, 1070–1. This also explains why authors of films enjoy moral rights.

[175] Note in this regard how films and sound recordings are protected as 'works' under the *Copyright, Designs and Patents Act 1988* (UK) c 48, s 1(1)(b).

[176] *Copyright Act 1968* (Cth) ss 85(1)(a) (sound recordings), 86(a) (films).

[177] Ibid ss 85(1)(b) (sound recordings), 86(b) (films). The rights of published editions and broadcasts are less relevant as the subject matter is quite different to CGM.

the rights of adaptation[178] and first publication. Due to the propensity for overlap between 'works' and CGM, this diminution in rights could be problematic.

Assuming a right to make a copy of the CGM is drafted in similar terms to the existing rights to make copies of films and sound recordings,[179] it is likely to be more limited[180] than a right of reproduction extending to all formats and dimensions.[181] The scheme would mean that a conventionally produced artwork could not be reproduced in any form, whereas the only limit on a computer-generated artwork is a restriction on making a copy of it.

Similarly, the lack of a right of adaptation may be problematic. It will mean that a conventionally created musical work cannot be adapted, but a computer-generated musical work can be. How is the method of creation perceptible? The breadth of CGM and the potential for overlap with Part III works exacerbates infringement risks.

The loss of a first publication right[182] may also be significant. This would mean anyone could publish copies of a computer-generated artwork, but not a handpainted artwork, or artwork made with the aid of software.

The public performance right[183] may also raise issues. Where the CGM is in the form of a literary, dramatic or musical work,[184] a right to restrict it being seen or heard in public may be narrower than a right to restrict a performance of it. Causing a film or sound recording to be seen or heard in public

178 In any event, these rights would not have been enjoyed by computer-generated artworks.

179 For example, *Copyright Act 1968* (Cth) s 10(1) provides that 'copy, in relation to a cinematograph film, means any article or thing in which the visual images or sounds comprising the film are embodied.' Section 10(3)(c) provides that 'a reference to a copy of a sound recording shall be read as a reference to a record embodying a sound recording or a substantial part of a sound recording being a record derived directly or indirectly from a record produced upon the making of a sound recording'. Section 10(1) defines 'record' to include 'a disc, tape, paper, electronic file or other device in which sounds are embodied.'

180 See *CBS Records Australia Ltd v Telmak Teleproducts (Aust) Pty Ltd* (1987) 17 FCR 48, where a 'sound alike' recording was found not to be a copy of the applicant's record. Bowen CJ, noted that section 10(3)(c) of the *Copyright Act 1968* (Cth) refers 'to an actual embodiment of the very sounds on the original record however they may be copied': at 51.

181 Subject to exceptions, for example the design-copyright overlap defence in ss 74–7 of the *Copyright Act 1968* (Cth).

182 The publication of copyright material in a tangible form is the equivalent to the first making available to the public of the original and copies of the copyright material through sale or other transfer of ownership: *Avel v Multicoin Amusements Pty Ltd* (1990) 171 CLR 88.

183 *Copyright Act 1968* (Cth) s 27.

184 It should be noted that a literary, dramatic or music 'work' is not technically a 'work' since it is protected under Part IV (which concerns 'subject matter other than works').

would entail showing the film or playing the recording in a suitable device. The 'performance' of a work is defined in the Act to include 'any mode of visual or aural presentation' of a work.[185] This may include its 'mechanical' performance by simply playing a visual or audio record of it, and thus it overlaps with the Part IV right to have a copy seen or heard in public. However, it is a broader right because it also includes physical performances of the work. The reference to 'presentation' in the definition of 'performance' could suggest that broader performed 'interpretations' of a work are restricted under the performance right. This is something which is not conceivable in Part IV because that only envisages a static copy of a film or sound recording being played on a device. For example, could this restrict the performed arrangement of a musical work, or a performance of a play or choreographic show that is only substantially similar to it? In contrast, the Part IV right is to cause the CGM to be seen or heard. This suggests a reference to the subject matter in its existing form and no other. This may mean that a computer-generated choreographic show,[186] for example, will only be protected to the extent that it is 'seen' in its form recorded in the CGM, whereas a physical performance of the choreographed dance would infringe Part III copyright.

In *Part 1*, it was argued that mere computer-generation of a work should not exclude the copyright reward. If that is the case, then why should the rights be different? The more attenuated rights afforded to CGM, which but for its computer generation would be a work, may require special modification. Perhaps the simplest method would be to include a provision clarifying that if the CGM, but for the fact of computer-generation, would be a work protected under Part III, it shall enjoy the same rights as a Part III work. This would prevent material which appears substantially identical to Part III works obtaining significantly different rights. Alternatively, if the rights are more attenuated for this 'overlap' CGM, then that may be acceptable. The more expansive rights granted to works reflect the intellectual effort of authors, the lack of which explains the allocation of CGM to Part IV under Option 2.

185 *Copyright Act 1968* (Cth) s 27(1).

186 In relation to this fascinating method of producing choreography, see, eg, M Gough, 'Towards Computer Generated Choreography: Epikinetic Composition' on *Splines in Space: Theorising Through (Dance) Practice* (11 September 2005) <http://binarybutoh.blogspot.fr/2005/09/towards-computer-generated.html>.

F *Ownership*

Ownership of CGM should not be any more problematic than other Part IV subject matter. Ideally, the same ownership rules should apply to CGM to achieve the greatest possible consistency with other Part IV subject matter. For that reason, a commissioner of CGM should be considered the owner.[187]

G *International Obligations and Constitutionality*

There seems to be no constitutional restriction on protecting CGM under the copyright umbrella. It is also consistent with Australia's international obligations, which only impose minimum legislative requirements.[188]

H *Duration*

Duration of protection of CGM would need to be determined, but should not be problematic. Indeed, duration under Part IV is less difficult than under Part III, which relies on an author's life. Copyright in sound recordings and films subsists until 70 years after the date of first publication.[189] Broadcast copyright endures for 50 years after the broadcast is made,[190] and published edition copyright for 25 years after first publication.[191]

The CLRC advocated a shorter term of protection, reflecting 'the fact that the object of protection is investment, rather than creativity'.[192] However, this applies to all Part IV works, some of which now enjoy a period of protection comparable to works. To maintain consistency, it is therefore suggested that CGM enjoy the same period of protection as films and sound recordings. If CGM is also a broadcast or published edition, then the amendments to the definition suggested above will prevent overlap — it will simply be CGM.

[187] See *Copyright Act 1968* (Cth) ss 97(3), 98(3), which provide respectively that the commissioner of a sound recording or film is the copyright owner.

[188] For example, 'published editions' are protected under Part IV despite being ignored under the international agreements: CLRC, *Simplification of the Copyright Act Report*, above n 9, 16 [3.13].

[189] *Copyright Act 1968* (Cth) ss 93–4.

[190] Ibid s 95(1).

[191] Ibid s 96.

[192] CLRC, *Computer Software Protection Report*, above n 9, [13.16], [13.23], [2.42(d)].

I *Conclusions — Option 2*

The incredible breadth of CGM raises a number of concerns, discussed above. These concerns primarily arise in respect of unoriginal CGM. However, it will be very difficult to address those concerns without also compromising and complicating protection for otherwise original CGM in Part IV. This suggests that authorless 'works' and authorless unoriginal material should be separately protected, with the former protected pursuant to Option 1. These concerns do not necessarily prevent protection of unoriginal material under Option 2, however, a suite of exceptions and controls will be necessary to make Option 2 workable. The above discussion also describes some differences and similarities between CGM and other Part IV subject matter, however, those differences are not in themselves a reason for abandoning Option 2. There are also perhaps significant differences in the rights enjoyed by CGM and works, which may require careful consideration.

V Option 3: Sui Generis Protection

Diverse issues arise when attempting to supplement and loosen the existing provisions of the Act to protect CGM. The problem is exacerbated because CGM may be broadly divided into: (1) authorless, but otherwise original works with relatively benign social policy effects on the one hand; and (2) authorless and unoriginal material with damaging social policy effects on the other. Due to the potential adverse effects of protecting unoriginal CGM, persuasive justifications for its protection must be provided. If the reform objective is to protect only otherwise original authorless works, then, as mentioned above, Option 1 is a workable solution. Sui generis protection would only be necessary to achieve this objective if the fundamental importance of human authorship in traditional copyright law means that fictionalising CGM as an authored copyright 'work' is untenable.

If the objective is to protect both original and unoriginal material,[193] Option 1 must be excluded, because Part III works must be original. The substantial amendments required to address the public policy and other issues triggered by the breadth of CGM may render Option 2 too problematic.[194] This

[193] This was not the argument developed in *Part 1*, although it will no doubt be agitated by disaffected producers of CGM following *IceTV* (2009) 239 CLR 458 and *Phone Directories* (2010) 264 ALR 617, affd (2010) 194 FCR 142.

[194] These problems were also noted by the CLRC in their *Simplification of the Copyright Act Report*, above n 9, 25 [3.40]: 'Others argued that copyright was not a suitable form of protection for such material, and that it would be more appropriately protected through a new sui

suggests that sui generis protection outside copyright is the only comprehensive reform option. However, the protection afforded to authorless and unoriginal CGM raises the same substantive issues relating to competing policy interests, subsistence conditions, duration, rights and exceptions, irrespective of the nomenclature and structure used to protect it. Therefore the critical task is to address those issues through legislative measures. This will either entail substantial amendment to the Act through Option 2, or substantial drafting of sui generis legislation. As a practical matter, once the issues have been addressed, the easier option should be pursued. It may transpire that a suitably drafted Option 2 is a less laborious option than discrete tailored legislation.

It is beyond the scope of this article to propose a comprehensive sui generis legislative model for the protection of all forms of CGM which addresses all of the issues discussed above. In *Phone Directories*, Gordon J emphatically urged Parliament to 'expand protection consistent with that set out in the *Directive*', and to do so 'without delay'.[195] In *IceTV*, Gummow, Hayne and Heydon JJ suggest that the European Database Directive[196] is a possible solution to the lacuna generated by that decision.[197] This was reiterated more bluntly by Gummow J during Telstra's unsuccessful application for special leave to appeal in *Phone Directories*,[198] where he recommended 'agitating the legislature' to remedy the gap in protection.[199]

In its limitation to 'databases' (albeit broadly defined),[200] the European Database Directive[201] is too restrictive to cure the problems identified in respect

generis right similar to that afforded to non-original databases under the EC directive'. See also Gervais, above n 8, 1135, arguing that '[c]opyright is not the proper vehicle to protect these non-creative, non-original compilations'.

195 (2010) 264 ALR 617, 628 [30].

196 *Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the Legal Protection of Databases* [1996] OJ L 77/20.

197 (2009) 239 CLR 458, 504 [135]: 'It is significant for the issues on the present appeal that the Australian legislation has no counterpart [to the European Database Directive]'. Their Honours added, '[i]n the absence of implementation of laws analogous to the kind described in the Directive, the matters now in issue cannot be resolved by concluding, as did the Full Court … that Ice appropriated "the fruits of Nine's skill and labour"': at 504 [139].

198 Transcript of Proceedings, *Telstra Corporation Ltd v Phone Directories Co Pty Ltd* [2011] HCATrans 248 (2 September 2011) 266–7: 'I think your client really needs something like a database directive which you do not have at the moment'.

199 Ibid 272–4.

200 *Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the Legal Protection of Databases* [1996] OJ L 77/20, art 1(2) defines 'database' as 'a collection of

of *all* CGM. In any event, it has been widely criticised. Detractors question the rationale for protecting databases when there is little evidence that sui generis protection incentivises the production of databases, and point to increased costs, including transaction and compliance costs; diminution of the public domain by the over-protection of facts; and monopoly pricing.[202] It has been argued that 'the Directive casts a net that is too broad, too unchecked by institutional balancing mechanisms, and too uncertain in many of its provisions to be a model for others'.[203] The European Database Directive is also described as 'a good example of the perils of establishing sui generis rights'.[204] It should therefore not be hastily imitated, whether to cure the lacuna identified in *Part 1*, or the diminution in copyright protection caused by the review of originality in *IceTV*. In particular, a substantial body of jurisprudence on the European Database Directive is developing,[205] and will be useful in crafting any legislative response modelled on it.

For the purposes of this article, the salient features of the European Database Directive are examined and compared with the reform models proposed in Options 1 and 2. The article evaluates those features to determine which may be usefully applied, modified or avoided, particularly to ameliorate the concerns outlined in relation to Option 2 above.

A *Subsistence Criterion — Substantial Investment in Obtaining, Verifying, or Presenting the Contents of a Database*

The European Database Directive confers database protection in exchange for substantial investment in obtaining, verifying, or presenting the contents of

independent works, data or other materials arranged in a systematic or methodical way and individually accessible by electronic or other means'.

201 Ibid.

202 See generally Thompson, above n 8.

203 C D Freedman, 'Should Canada Enact a New Sui Generis Database Right?' (2002) 13 *Fordham Intellectual Property, Media and Entertainment Law Journal* 35, 88. See also, at 93:

> There are three main problems with the database right: the absence of a strong link between the provisions as expressed and the justification for the protection, the protections as expressed are themselves overly-broad, and, there is uncertainty as to the level of investment required to attract or maintain database right.

204 Gervais, above n 8, 1111.

205 See, eg, *Fixtures Marketing Ltd v Organismos Prognostikon Agonon Podosfairou AE* (C-444/02) [2004] ECR I-10590; *Fixtures Marketing Ltd v Svenska Spel AB* (C-338/02) [2004] ECR I-10532; *British Horseracing Board Ltd v William Hill Organization Ltd* (C-203/02) [2004] ECR I-10461; *Fixtures Marketing Ltd v Oy Veikkaus Ab* (C-46/02) [2004] ECR I-10396.

the database.[206] This differs significantly from protection of subject matter under Part IV, which protects the mere fact of creation of CGM, not the degree of investment in the generated material, nor its procurement, presentation or verification. Neither does it differentiate between CGM which could meet the definition of 'database' in the European Database Directive, and other CGM. The European Database Directive protects conduct in relation to existing material,[207] whereas both Options 1 and 2 protect the creation of the material itself.

1 *Substantial Investment*

The primary argument for conferring copyright protection on unoriginal computer-generated output is that it is expensive and laborious to compile,[208] and protection is necessary to facilitate recovery of those expenses and prevent free-riding. Conversely, copying the computer-generated output may be cheap and simple, particularly with the aid of software. The copier has not expended the labour, time or expense of the original compiler and can thus undercut the compiler on price. The difficulty with compilations of facts is striking the correct balance between protecting the investment of a legitimate original compiler and avoiding over-protection of low investment which would exclude legitimate users. As with all intellectual property balances, Parliament must seek to provide only the level of protection that is required to protect investment and encourage the creation of the computer-generated material, and no more.

The primary shortcoming of Option 2 is that it will protect unoriginal CGM with minimal investment. Therefore, the European Database Directive's condition of substantial investment required for database protection would be an important control on the potential over-protection of unoriginal CGM, and for that reason it was a proposed safeguard for Option 2. 'Substantial investment' is, of course, a relatively ambiguous and potentially very broad term,[209] however it is preferable to have an indistinct control on over-protection, than no control at all. As discussed above, the shortcomings of this

[206] *Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the Legal Protection of Databases* [1996] OJ L 77/20, recital 41, art 7.1.

[207] Namely, conduct includes obtaining, verifying, or presenting the contents of databases.

[208] The computer system in *Phone Directories* (2010) 264 ALR 617 was estimated to have cost in excess of $300 million and taken more than five years' work: at 639 [72] (Gordon J).

[209] See Sandra Gosnell, 'Database Protection Down Under: Would a "Sweaty" Australia Be Better Off With a Northerly Change?' (2003) 26 *University of New South Wales Law Journal* 639, 673.

safeguard are that not all CGM will result from substantial investment, and the safeguard is only required with respect to unoriginal CGM whose protection is only justified due to that substantial investment.

2 *Obtaining, Verifying or Presenting the Contents*

The developing jurisprudence on the European Database Directive[210] suggests that its protective reach will not be as extensive as feared,[211] and will not necessarily cure the lacuna exposed by *IceTV*[212] and *Phone Directories*.[213] Case law interpreting the European Database Directive has clarified that it does not protect data which is created as a by-product of other commercial activities.[214] This is not 'obtaining' data. This in fact aligns with *IceTV* in respect of copyright works, which disregards skill and effort not sufficiently directed to the material expression of the copyright work,[215] meaning that material which is created as an incident of other business endeavours is unprotected.[216] Hence, sui generis legislation modelled on the European Database Directive, if judicially interpreted in the same manner, will not protect the generation of the CGM. Therefore, if the objective of protection is to reward the creator for the fact of creation, Option 2 (with appropriate safeguards) would be preferable to an enthusiastic adoption of the European Database Directive.

B *Who Makes and Owns CGM?*

The European Database Directive defines the 'maker' of the database as 'the person who takes the initiative and the risk of investing'.[217] In referring expressly and exclusively to the criterion of investment, rather than the broader concept of 'arrangements', this is narrower than the deemed maker of CGM in Option 2. However, if a subsistence criterion of substantial investment is em-

[210] *Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the Legal Protection of Databases* [1996] OJ L 77/20.

[211] See, eg, Davison and Hugenholtz, above n 8, 113; Davison, above n 6, 465.

[212] (2009) 239 CLR 458.

[213] (2010) 264 ALR 617, affd (2010) 194 FCR 142.

[214] See, eg, *British Horseracing Board Ltd v William Hill Organization Ltd* (C-203/02) [2004] ECR I-10461, I-10490 [80], cited in Davison, above n 6, 465. For further discussion of this case, see Davison and Hugenholtz, above n 8, 113.

[215] McCutcheon, 'When Sweat Turns to Ice', above n 6.

[216] Ibid.

[217] *Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the Legal Protection of Databases* [1996] OJ L 77/20, recital 41.

ployed, either in Option 2 or Option 3, it follows that the investor should be considered the maker. The phrase reflects the limited objectives of the European Database Directive, which rewards investment in obtaining, verifying, or presenting data. The maker of CGM, on the other hand, may not have 'invested', and the CGM may not be limited to data. This reinforces the difficulty in attempting to craft workable protection for all CGM, and demonstrates that otherwise original CGM should be separately protected pursuant to Option 1.

C *Exclusive Rights*

The database owner has the exclusive right to prevent extraction and/or re-utilisation of the whole or of a substantial part, evaluated qualitatively and/or quantitatively, of the contents of the database.[218] Infringement also occurs by the

> repeated and systematic extraction and/or re-utilization of insubstantial parts of the contents of the database implying acts which conflict with a normal exploitation of that database or which unreasonably prejudice the legitimate interests of the maker.[219]

Extraction refers to 'the permanent or temporary transfer of all or a substantial part of the contents of a database to another medium by any means or in any form'.[220] This can be compared to the reproduction right in respect of works, and the right to copy in respect of other subject matter. The concept of 'transfer' may however be narrower than the notions of reproduction or making a copy. Transferring implies some process of transmitting the data from one point to another, and it may be a temporary transmission, whereas a reproduction of a copyright work can occur from memory and without any process of 'transfer'. The making of a copy differs from transferring, because it is necessarily a permanent copy.

Reutilisation is defined as 'any form of making available to the public all or a substantial part of the contents of a database by the distribution of copies, by renting, by on-line or other forms of transmission.'[221] This is an omnibus term which mirrors the rental right conferred in Part III of the Act,[222] and the right

[218] Ibid art 7(1).

[219] Ibid art 7(5).

[220] Ibid art 7(2)(a).

[221] Ibid art 7(2)(b).

[222] *Copyright Act 1968* (Cth) ss 30A, 31(1)(c).

of communication to the public conferred in Parts III and IV of the Act.[223] The reference to the 'distribution of copies' most closely mirrors the publication right[224] in respect of works.

The 'repeated and systematic extraction and/or re-utilization of insubstantial parts of the contents of the database' is only prohibited if those acts conflict with a normal exploitation of that database or unreasonably prejudice the legitimate interests of the maker. Ostensibly, this imports the three-step test from the *Berne Convention*,[225] with the result that infringement is dependent on the effects of the infringer's conduct. This is clearly a very different approach to the existing infringement provisions in the Act, where infringement occurs when the requisite act has been done, irrespective of its effects.[226] Further, *IceTV* clarifies that incremental, insubstantial reproductions cannot cumulatively amount to a single substantial reproduction.[227] In any event, this provision has been narrowly interpreted by the European Court of Justice. It is intended to prevent the 'reconstitution of the database as a whole or, at the very least, of a substantial part of it'.[228]

D *Duration*

The database right endures initially for 15 years. However, the term may be extended where a new substantial investment results in a 'substantial change … to the contents'.[229] There is clearly a significant difference in the duration of protection under the European Database Directive, when compared to the Act. However, the permanently renewable nature of a database may have some similarity with CGM, particularly where the CGM is a fluid repository of data. Another difference is in the nature of 'change' reflected in

[223] Ibid ss 31(1)(a)(iv), 31(1)(b)(iii), 85(1)(c), 86(c).

[224] Ibid ss 29, 31(1)(a)(ii).

[225] See *Berne Convention* art 9(2):

> It shall be a matter for legislation in the countries of the Union to permit the reproduction of such works in certain special cases, provided that such reproduction does not conflict with a normal exploitation of the work and does not unreasonably prejudice the legitimate interests of the author.

[226] Although note that, when the work has been infringed, limited exceptions exist which import the three-step test: *Copyright Act 1968* (Cth) s 200AB.

[227] (2009) 239 CLR 458, 470 [21] (French CJ, Crennan and Kiefel JJ).

[228] *British Horseracing Board Ltd v William Hill Organization Ltd* (C-203/02) [2004] ECR I-10461, I-10492 [87].

[229] *Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the Legal Protection of Databases* [1996] OJ L 77/20, art 10(3).

the European Database Directive. It has been argued that investing in a thorough verification of the contents of a database may be a sufficiently substantial 'change' to trigger a new term of protection.[230] This may not, however, result in a material change to the form of the database, which would be required to effectively trigger the protection of new CGM under the Act.

E *Exceptions*

There are three major exceptions to the database right:

a) in the case of extraction for private purposes of the contents of a non-electronic database;

b) in the case of extraction for the purposes of illustration for teaching or scientific research, as long as the source is indicated and to the extent justified by the non-commercial purpose to be achieved; and

c) in the case of extraction and/or re-utilisation for the purposes of public security or an administrative or judicial procedure.[231]

The European Database Directive also clarifies that database users may extract and/or reutilise insubstantial parts of its contents (measured qualitatively and/or quantitatively) for any purposes whatsoever, provided the user does not 'perform acts which conflict with normal exploitation of the database or unreasonably prejudice the legitimate interests of the maker of the database'.[232] Again, this reflects the *Berne Convention* three-step test, and it is quite a different approach to copyright infringement, where exercising an exclusive right of the copyright owner in respect of an insubstantial part of the work or subject matter will never amount to infringement, and where infringement is only tested against the bare criteria of the three-step test in s 200AB of the Act.[233]

[230] Gervais, above n 8, 1124, citing Davison and Hugenholtz, above n 8, 118.

[231] *Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the Legal Protection of Databases* [1996] OJ L 77/20, art 9.

[232] Ibid art 8(2).

[233] Section 200AB of the *Copyright Act 1968* (Cth) permits certain uses by libraries, archives, educational institutions and persons with disability, provided the three-step test is complied with.

The limited nature of the exceptions has been widely criticised,[234] and clearly broader exceptions would be required to address the problems caused by the range of CGM, including those discussed in relation to Option 2 above.

F *Overlap*

The potential for overlap between the Act and any sui generis legislation would require careful consideration. However, that risk is limited if Option 1 is not pursued. Unless an authorial deeming provision is included in Part III, 'otherwise original' CGM will never be a 'work'. Thus, the only prospect of protection is under Option 2 or sui generis legislation. If Option 1 is pursued in addition to Option 2 or sui generis legislation, there is a risk that otherwise original CGM may be protected in both Part III *and* under sui generis legislation. This could be cured by a provision expressly limiting protection of dual-qualifying CGM to Part III.

G *Constitutionality*

There is some debate as to whether sui generis protection for databases would be constitutionally permissible under the *Constitution*.[235] The same concerns could apply to CGM. However, circuit layouts have been protected (without controversy) as a discrete form of intellectual property,[236] despite any specific mention of the technology in the *Constitution*, based on an expansive interpretation of the legislative power in s 51(xviii) of the *Constitution* extending to 'products of intellectual effort'.[237] Whether unoriginal CGM involves sufficient 'intellectual effort' is, of course, controversial and an alternative source of constitutional power may need to be identified.[238]

[234] Gervais, above n 8, 1163; Gosnell, above n 209, 660–1; Freedman, above n 203, 95–6; Thompson, above n 8, 95.

[235] Mark J Davison, 'Sui Generis or Too Generous: Legislative Protection of Databases, Its Implications for Australia and Some Suggestions for Reform' (1988) 21 *University of New South Wales Law Journal* 729, 745.

[236] *Circuit Layouts Act 1989* (Cth).

[237] *Nintendo Co Ltd v Centronics Systems Pty Ltd* (1994) 181 CLR 134, 160 (Mason CJ, Brennan, Deane, Toohey, Gaudron and McHugh JJ).

[238] For example, the external affairs power in s 51(xxix) of the *Constitution*, although even that would demand an appropriate international treaty or agreement to which Australia is a party.

H *A Registration System?*

A number of concerns have been outlined in relation to both Option 2 and sui generis protection. Those concerns necessitate the exploration of numerous safeguards, including those utilised in the European Database Directive. The safeguards themselves raise many questions, amplified by the difficulty of adapting safeguards to accommodate the breadth of CGM and address all anticipated problems. The safeguards are in part designed to prevent automatic protection of CGM which could be unduly generous and overly costly. This can result in an excessively blunt approach which is too prescriptive in respect of some CGM, and too liberal in respect of other CGM.

These problems could suggest that sui generis legislation based on a registration system similar to the patent and trademark system is worth considering. The potential adverse consequences of automatically protecting socially costly CGM are at least as problematic as conferring patent rights on an undeserving invention.[239] Therefore, protection following an evaluative assessment may be the most prudent course of action. The evaluative criteria could include:

a) the cost of creating the CGM (the substantial investment criterion);

b) the risk of unauthorised appropriation of the CGM;

c) the social and economic costs of conferring protection;

d) the proposed cost to users of accessing and using the CGM;

e) the utility of the CGM; and

f) whether the CGM may be obtained from other sources, and the ease of doing so.

This system could be supplemented with an appropriate range of exceptions as discussed in relation to Option 2, including a compulsory licence scheme. The chief disadvantage of this system is, of course, the bureaucratic cost of administering it and the time lag in obtaining certainty of protection while the application proceeds. However, it has the advantages of transparency and enhanced certainty (even if the registered right may be judicially reviewed) enjoyed by the existing registration systems.

[239] This is so even if the validity of that protection could be challenged in court.

I *Conclusions — Option 3*

Sui generis protection for original CGM is superfluous, given that Option 1 affords an appropriate method of protection. Sui generis protection for unoriginal CGM may be justifiable if the concerns with respect to Option 2 necessitate bespoke legislation. Mere adoption of the European Database Directive model will not cure all of the problems identified in this article and in *Part 1*. Any sui generis regime must be crafted with the deficiencies and limitations of the European Database Directive, and the issues outlined with respect to Option 2, in mind.

VI Conclusion

Part 1 addressed the arguments for protecting CGM which, but for the lack of human authorship, would have been protected as a copyright work under the Act. Being 'otherwise original works', these creations meet all copyright subsistence criteria other than authorship. Originality does not necessarily eliminate the potentially adverse effects of copyright protection, however, it tends to minimise them. To the extent that copyright protection for otherwise original CGM may have adverse effects, this applies to all works. Protection of such 'nearly copyright' works is best achieved under Option 1, since it cures the central defect — it supplies an author where one is missing. While there may be issues of interpretation of the reform provisions, there are no major obstacles to this reform option. Further, other jurisdictions have effectuated this reform model with no apparent adverse outcomes. The growing jurisprudence on the interpretation of substantially identical provisions in neighbouring common law jurisdictions can be usefully monitored. There is also useful judicial interpretation of similar statutory wording in the context of film and sound recording authorship.

Part 1 did not engage comprehensively with the policy and other issues that surround protection for unoriginal CGM. Options 2 and 3 extend protection beyond the 'otherwise original material' examined in *Part 1*, to unoriginal material which may, or may not, merit protection. As such, they raise a plethora of issues which require further, and more careful, deliberation. However, that should not prevent early protection of the otherwise original authorless works examined in *Part 1*. Indeed, there are compelling arguments for separately protecting merely authorless works in Part III of the Act, and authorless and unoriginal works through some other mechanism — just as original and unoriginal material is currently divided between Parts III and IV of the Act.