‘Substantial similarity’ under Australian design law: Application to 3D printing

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1. Introduction

Designs are considered the ‘poor cousin’ of intellectual property rights (IPRs). But that could all be about to change with the advent of 3D printing technologies (or ‘additive manufacturing’). Among the chief concerns raised about 3D printing are whether unauthorised versions of registered designs have been created using 3D printing technologies. This has led some commentators to speculate that the potential impact of 3D printing on design-led innovation could mirror the disruption of unauthorised digital downloads had on the music and film industries.

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A brief history and uses of 3D printing technologies have been aptly dealt with elsewhere. As well as, the prophesied economic impact on IPRs and the modern economy. Another subject that has received attention is the shift of 3D printing from ‘advanced manufacturing’ usually found in industry and academia to ‘consumer models’ of use, via online platforms and ‘copy shops’. Assuming the full cost of 3D printing technologies will lower, a greater impact will be felt by owners of registered designs in the future, since the current remedies

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under the Australian design regime do not provide sufficient relief for non-commercial or private use.

Protection for designs has a long history, and design touches a vast range of activities from product and packaging design, fashion design, graphic design, software design, architectural design, and so on. Regrettably, design protection in Australia is not well understood or utilised. Many designers are either unaware of the need to register their designs, or find their products already on the market and being copied. The use of the word ‘design’ has

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9 The regime is made up of two legal instruments: Designs Act 2003 (Cth) and Designs Regulations 2004 (Cth).


11 See Martin Howe, James St Ville and Ashton Chantrielle, Russell-Clarke and Howe on Industrial Designs (Thomson Reuters, 9th ed, 2016), [7]; JC (James) Lahore, ‘Art and Function in the Law of Copyright and Designs’ (1971) 9 Adelaide Law Review 182-209, 185. Initially, the Designing and Printing of Linens, etc Act 1787 (27 Geo. 3, c 28) gave designers and printers “the sole right and liberty of printing and reprinting them [original patterns] for two months from the date of first publication…”.


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also come in for discussion, with several scholars highlighting a disconnect between its legal use and the way in which design is used in everyday speech.\textsuperscript{14}

This chapter seeks to extend on the recent work of others in Australia.\textsuperscript{15} It attempts to fill a previous gap in the literature relating to 3D printing and design infringement.\textsuperscript{16} As with all intellectual property rights, a design right is only as effective as the ability of its owner to enforce it.\textsuperscript{17} Infringement may be easier to establish when an exact copy of a registered


\textsuperscript{17} Presently, there are no specific provisions within the Designs Act 2003 (Cth) which refer to 3D printing or permitted activities associated with 3D printing.
design is created using 3D printing technologies, however, where slight differences exist between the registered design and the alleged infringing work it becomes more challenging.\(^\text{18}\)

Accordingly, the main focus of this chapter is directed at evaluating the current infringement provisions, and their application to 3D printing technologies.\(^\text{19}\) By taking a targeted approach to this subject, hopefully, will open up debate on the potential difficulties facing designers when defending their design rights.\(^\text{20}\) After commencing with a brief introduction to Australian design law, the balance of the chapter will focus on whether products created by 3D printing technologies constitute an infringement under the *Designs Act 2003* (Cth). It then closes with some remarks about the recent reviews which have touched on the Australian designs system.

### 2. Australian design law

Design protection in Australia focuses on the “overall appearance of the product resulting from one or more visual features of the product”, rather than the product’s function or the

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\(^{19}\) *Designs Act 2003* (Cth), ss 71-76.

means of producing it. Some guidance is provided in s 7 on what constitutes a ‘visual feature’, including other matters that are not. Yet, the feel of a product or the materials used in the product are not visual features for the purposes of the Act. Furthermore, an object may be a component of a ‘complex product’, if it is made separately, or a kit which, when assembled, from numerous component parts. For a complex product, design protection is separately available for the component parts as well as the assembled whole.

To register a design, it must be ‘new’ and ‘distinctive’ when compared with the prior art base, comprising of designs publicly used in Australia, or published in a document anywhere in Australia or abroad. To be distinctive a design must not be ‘substantially

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21 *Designs Act 2003* (Cth) s 5 (‘design’). The design right granted under the *Designs Act 2003* (Cth) is a limited monopoly in a design; it is not a monopoly in a product, nor in the trading of the product that it is registered in relation to.

22 While there may be a relationship between the aesthetic appeal of a product and its visual appearance, the question of whether or not a design has aesthetic appeal is an irrelevant consideration.

23 *Designs Act 2003* (Cth) s 7(3).

24 *Designs Act 2003* (Cth) s 5 (‘complex product’ comprises of “at least 2 replaceable component parts permitting disassembly and re-assembly of the product”). However, if the component part serves the purpose repairing a complex product so as to restore its overall appearance the component part will not infringe any registered design (‘spare parts’ defence’): see *Designs Act 2003* (Cth), 72(1)(c).


26 See *Designs Act 2003* (Cth) s 15(2).

27 *Designs Act 2003* (Cth) s 15. The term of protection for a design is 5 years from the filing date, with an extension of 5 years (max 10 years) upon payment of a single renewal fee: ss 46-47.
similar’ in overall impression to a design that forms part of the prior art base. The factors to be considered in assessing substantial similarity are listed in s 19, and discussed below.

Correspondingly, infringement of a registered design occurs if the product embodies a design that is identical to, or substantially similar in overall impression to, a registered design. Among the factors contained in s 19, the court must apply the ‘standard of the informed user’, that is, a person familiar with the product, or similar products, to which the design relates. Notwithstanding, a design must be examined and certified under the Designs Act 2003 (Cth), before an owner is able to commence an action for either ‘primary’ or ‘secondary’

28 Designs Act 2003 (Cth) s 16(2). It is important to distinguish that the design right is not in respect of the overall appearance of the product per se. Rather, it is the overall appearance that results from one or more visual features.

29 The types of infringement acts are specified in Designs Act 2003 (Cth), s 71, and correspond to the exclusive rights of registered owners (s 10), except for the right of ‘authorisation’: s 10(1)(f). This anomaly is examined by Adams concluding that “[o]n balance, it appears that authorising infringing activity cannot be imposed on service providers as a distinct head of liability”: see Mitchell Adams, ‘The “Third Industrial Revolution”: 3D Printing Technology and Australian Designs Law’ (2016) 24(1) Journal of Law, Information and Science 1-27, 20.

30 Designs Act 2003 (Cth) s 19(4). See also Multisteps Pty Ltd v Source and Sell Pty Ltd (2013) 105 IPR 342. The same standard applies to ‘complex products’ in the context of the spare parts defence: see s 72(5).

31 IP Australia operates a ‘non-examining office’ in respect to registered designs, in that a design is not enforceable against an alleged infringer until the design is examined, and subsequently certified: Designs Act 2003 (Cth), s 73.
infringement (or liability).  

Given the limited opportunity here, only the main heads of liability will be examined.  

3. Infringement and ‘substantial similarity’

Primary infringement

Primary infringement occurs when a person, without a licence or authority from the registered owner of the design, and during the term of registration, does the following:

71(1)(a) makes or offers to make a product, in relation to which the design is registered, which embodies a design that is identical to, or substantially similar in overall impression to, the registered design.  

In addition, s 71(3) instructs a court to consider the factors specified in s 19 when determining “whether an allegedly infringing design is substantially similar in overall impression to the registered design”. Accordingly, if all of the elements in s 71 are satisfied, there will be infringement unless the alleged infringer can bring his or her conduct within

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32 Both terms are introduced in s 75, and refer to the various classes of infringing acts listed in s 71. Secondary infringement, like its counterparts in other intellectual property regimes, refers to the supply or dealing of an infringing product: s 71(1)(b)-(e).

33 Another relevant issue to the advent of 3D printing technologies will likely be the designs/copyright overlap (see Copyright Act 1968 (Cth), ss 74-77). An analysis of this area is beyond the scope of the present chapter.

34 Designs Act 2003 (Cth), s 71(1)(a). Notably, such infringements can be committed innocently or in ignorance of the registered design.

35 Selective factors are examined in more detail below as they relate to 3D printing technologies.

36 Since s 71(4) provides a 6 year statutory limitation period for instituting court proceedings, an owner can also initiate infringement proceedings after the design has expired, but only in respect of alleged infringements that occurred during the term of protection.
one of the defences.\textsuperscript{37} Whether an infringing design is ‘identical’ to a registered design is relatively straightforward, so the focus here will continue with those cases where questions of ‘substantially similar in overall impression’ are raised.

The scope of the provision is broadened further by \textit{Review Australia Pty Ltd v Innovative Lifestyle Investments Pty Ltd},\textsuperscript{38} where Jessup J held that a person who “directs, causes or procures the product to be made by another” themselves makes the product within the meaning of the Act. Yet, such conduct is limited by territory in that the product must be \textit{made} in Australia.\textsuperscript{39} This raises another aspect of s 71 as the following scenario illustrates.

To begin with, an ‘offer to make’ a product could be made in Australia or elsewhere. If the offer is made overseas, it could be to someone overseas or within Australia. Similarly, if the same offer is made in Australia, it could be to make the infringing product overseas or within Australia. Thus, no difficulty would arise where both the offer is made by someone in Australia to someone else in Australia to carry out the product’s manufacture in Australia; but where a person commissions from Australia the making of an infringing product, which is subsequently imported to Australia, this would not constitute primary infringement under s 71(1)(a).\textsuperscript{40}

\textbf{Secondary infringement}

Secondary infringement occurs when an alleged infringer imports, sells, hires or otherwise disposes of a product that embodies a design that is identical or substantially similar in

\begin{itemize}
\item Available defences under the \textit{Designs Act 2003} (Cth) include, infringement in relation to parallel imports (s 71(2) ‘consent’), and supply of component parts (s 72 ‘spare parts’).
\item \textit{Review Australia Pty Ltd v Innovative Lifestyle Investments Pty Ltd} (2008) 75 IPR 289, [21].
\item \textit{Review 2 Pty Ltd v Redberry Enterprise Pty Ltd} (2008) 79 IPR 214, [74]-[77].
\item \textit{Review 2 Pty Ltd v Redberry Enterprise Pty Ltd} (2008) 79 IPR 214, [77]. Kenny J added that under such circumstances a respondent’s liability would only arise under secondary infringement.
\end{itemize}
overall impression to the registered design.\textsuperscript{41} However, there is some debate whether ‘authorising’ infringement, as a form of liability is available for registered owners.\textsuperscript{42}

**Substantial similarity**

The test of ‘substantial similarity’ is based upon a number of factors.\textsuperscript{43} First, the court is “to give more weight to similarities between the designs than to the differences between them”.\textsuperscript{44} Second, the court must have regard to a list of related aspects of the design under assessment.\textsuperscript{45} Among them, the ‘state of development of the prior art base’, and the ‘freedom of the creator to innovate’.\textsuperscript{46} Finally, the court must apply these factors from the perspective or ‘standard of the informed user’.\textsuperscript{47}

Along with these factors, ‘overall impression’ requires an assessment made from the viewpoint of the informed user. This means that the relevant impression is that gained by an

\textsuperscript{41} Designs Act 2003 (Cth), s 71(1)(b), (c).

\textsuperscript{42} See James Lahore and Warwick A Rothnie, Copyright and Designs (LexisNexis, looseleaf), [71,070].

\textsuperscript{43} Furthermore, mere similarity is not sufficient there must be substantial similarity. More precisely, there must be ample commonality in the overall impression, without them necessarily being identical.

\textsuperscript{44} Designs Act 2003 (Cth), s 19(1). For expediency, this section omits discussion of any potential influence on this assessment by ‘statements of newness and distinctiveness’ (SOND) which allows the applicant to identify visual features of the design: see IP Australia, Designs Examiners’ Manual of Practice and Procedure <http://manuals.ipaustralia.gov.au/designs/whnjs.htm>, D09.4.3.

\textsuperscript{45} Designs Act 2003 (Cth), s 19(2).

\textsuperscript{46} An example of a creator’s ‘freedom to innovate’ is aptly described as [where] “external factors over which the designer has no control it is appropriate to assess newness and distinctiveness on the basis of factors which are under the designer’s control”: see IP Australia, Designs Examiners’ Manual of Practice and Procedure <http://manuals.ipaustralia.gov.au/designs/whnjs.htm>, D09.4.5.1.

\textsuperscript{47} Designs Act 2003 (Cth), s 19(4).
informed user; not an uninformed or casual glance of the product. Additionally, the reference to overall impression requires consideration of the product as a whole, and not just that part of the product bearing the particular visual features of the design. As a consequence, any minor variation on a large product may have no effect on the overall appearance of the design. For example, where a product has many features in common with a competing design, but one feature is different, an informed user will consider one feature of difference not to be particularly noteworthy, assuming all those features to be of equal significance.

At this stage two factors are worth mentioning further. The state of development of the prior art base necessitates an additional analysis. If the prior art base is well developed, it may be expected that informed users will have a greater awareness of small differences between two potentially infringing designs. Whereas if the prior art base is under-developed, differences between the alleged infringing product and registered design, will likely need to be greater in magnitude before the former will be considered distinctive.

Furthermore, the informed user standard is intended to be flexible, but importantly, does require a person who is reasonably familiar with the nature, appearance and use of the products of a relevant kind. In *Multisteps Pty Ltd v Source & Sell Pty Ltd*, the court considered whether the informed user needed to actually use the items in question. Because the statutory definition of informed user is a “person who is familiar with the product to which the design relates”, the court held that, “the standard does not proceed on the requirement that the notional person be a user of the products in question”, although the appropriate consideration of familiarity can be gained through use.

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48 In this regard, the informed user may have particular interests in certain aspects of a product, such that their attention is directed to those aspects.

49 The ‘standard’ of the informed user describes the standard to be applied, and not who can give evidence; thus, the ‘standard’ is best thought of as being associated with a hypothetical person who is representative of the class of all persons who are informed users.

50 *Multisteps Pty Ltd v Source and Sell Pty Ltd* (2013) 105 IPR 342.

51 *Multisteps Pty Ltd v Source and Sell Pty Ltd* (2013) 105 IPR 342, [66].
4. Application to 3D printing

It is inevitable that 3D printing will pose challenges for designs law as 3D printers become increasingly cost-effective and accessible. There is also little doubt that the conduct specified by the Designs Law 2003 (Cth) will encompass the manufacture of products via 3D printing (‘make’ or ‘offer to make’); what is less clear is the territorial scope of protection, and whether it will cover other technologies, such as 3D scanning. Some suggestions are offered below. This raises another point, where there is an infringement of the Designs Act 2003 (Cth) limitations will continue to exist in Australia. As a result, any private or non-commercial use of a 3D printer to make a product in which the design is embodied remains permitted by law.

*Primary infringement*

If a person engages with a copy shop to print a product that embodies a registered design, this will fall within the scope of Designs Act 2003 (Cth) s 71(1)(a). The reference to a person who ‘makes’ a product has been held to include a person who “directs, causes or procures the

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product to be made by another”.56 According to Adams, Jessup J’s interpretation “treats ‘making’ and directing or procuring as one in the same, for which the director/procurer is responsible”.57 Therefore, when a person uploads a 3D CAD file to an Australian service provider’s website for 3D printing, they “appear to be committing a primary infringement as a principal by procuring the making of a registered design”.58 The practical consequence is where consumers procure a 3D printed product with an embodied registered design from a foreign copy shop, they would likely avoid liability as a primary infringer.

‘Spare parts’

As mentioned, a complete defence can be raised in relation to a registered design where a person is using 3D printer to make a component part for the purpose of ‘repair’.59 Section 72 sets out, in general terms, that a repair includes, “restoring [or replacing] a decayed or damaged component part of the complex product” to a good or sound condition.60 And since the repair must “restore … [the product’s] overall appearance in whole or part”, 3D printed component parts that solely perform this task would not constitute an infringement of a registered design.61

56 Review Australia Pty Ltd v Innovative Lifestyle Investments Pty Ltd (2008) 75 IPR 289, [21].


59 Designs Act 2003 (Cth), s 72(1).

60 Designs Act 2003 (Cth), s 72(5).

61 Designs Act 2003 (Cth), s 72(1)(c).
Many such relevant scenarios have been identified. For example, where household or commercial appliances require unique or often expensive spare parts to maintain functionality. Obvious consumer goods would include, door parts for washing machines, lids for food processors, and camera lens accessories. In Australia, the 3D printing of spare parts would not attract any infringement under Designs Act 2003 (Cth) provided the component part made restores the overall appearance of the product.

**Secondary infringement**

Secondary infringement remains relevant despite the limitations of Designs Act 2003 (Cth), ss 71(1)(a) and 72(1). Section 71(1)(b)-(e) prohibit dealings with products once created. This includes the importation an unauthorised product into “Australia for sale, or use for the purposes of any trade or business”. Consequently, when consumers procure a 3D printed product from an overseas service provider, it does not matter that the product was manufactured in another jurisdiction, as the infringing act occurs in Australia. Yet, the importation must be for ‘trade or business’. It remains, then, that consumers procuring a service provider to print a product for private or domestic use would not amount to infringement under s 71(1)(b).

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63 There is no prohibition in Australia on the registration of designs that are functional, unlike some jurisdictions: see Designs Act 2003 (Cth), s 7(2) (“a visual feature may, but need not, serve a functional purpose”.)


65 Designs Act 2003 (Cth), s 71(1)(b).
3D scanning

Since the advent of 3D scanning, concern among design owners has been focused on the digital reproduction of an existing product.66 This type of reproduction is potentially challenging for design owners if the use of the 3D CAD file is for private or non-commercial purposes. Furthermore, s 71(1)(a) requires the making of a ‘product’, where a product is defined as a “thing that is manufactured or handmade”.67 In this sense, a computer-generated 3D model is unlikely be interpreted as a product.68 However, it remains whether a 3D scanned product offered for sale online would be considered an infringing activity, and its widespread prevalence ‘in practice’ remains uncertain.69

‘Kits’

A final example worth mentioning is the law in relation to ‘kits’. Section 6(4) provides:

A kit which, when assembled, is a particular product is taken to be that product.70

There are two aspects to this provision. First, in situations where design protection is sought in respect of a kit of parts that may be assembled, such as a model airplane or modular furniture, the assembled kit is taken to be the product. The second aspect relates to infringement. A manufacturer might try to avoid any potential infringement by selling a set of component parts which, when assembled by the consumer, produces a product that infringes

66 See Angela Daly, Socio-Legal Aspects of the 3D Printing Revolution (Palgrave Macmillan, 2016) 82.

67 Designs Act 2003 (Cth), s 6(1).


70 Designs Act 2003 (Cth), s 6(4).
a registered design. That is, the consumer may commit infringement by assembling the product, not the manufacturer. But commercially speaking, pursuing the consumer in this instance would not be desirable, since the design owner would want to stop the manufacturer (or retailer) from supplying the component parts in the first place.

It remains that in order to establish infringement, it is insufficient to show that all the components of the kit are individually known, or that they are known to exist as a collection that could be assembled to make the particular product. Rather, it is necessary to establish that the component parts would, when assembled make the relevant registered design. Therefore, considerations of the way component parts are offered for sale or received will carry some weight in deciding whether or not there has been an infringement.

5. Concluding remarks

Two recent Australian reviews have examined designs. This follows an extensive inquiry by the Australian Law Reform Commission (ALRC) in 1995 which precipitated the introduction of the Designs Act 2003 (Cth). The latest review by the Productivity Commission looked at designs as part of a broader examination into Australia’s IP system, but did little to advance the earlier work of Advisory Council on Intellectual Property (ACIP) in terms of examining the impact of 3D printing on designs. A brief mention of the ACIP

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72 Australian Law Reform Commission, Designs, Report No 74, 1995. The ALRC suggested that the law needed to be modernised and simplified, and highlighted the risk of ‘free riding’ in connection with designs: see [3.4].

review is provided since the subsequent Government response was largely accepting of its 23 recommendations.\textsuperscript{74}

Relevant to the preceding discussion, ACIP proposed a number of recommendations in response to the Australian Government asking for an investigation into the effectiveness of the designs system in stimulating innovation in May 2012.\textsuperscript{75} Under inquiry were ss 19 (‘substantial similarity’),\textsuperscript{76} 71 (‘infringement’),\textsuperscript{77} and 72 (‘spare parts’)\textsuperscript{78} of the \textit{Designs Act 2003} (Cth). In each case, the conclusion of the panel members was for ‘no change’ on the basis of insufficient evidence, or that it would be premature to “undertake any action in relation to 3D printing”.\textsuperscript{79}


\textsuperscript{75} The following Terms of Reference were endorsed:

“Inquire, report and make recommendations to the Australian Government on the operation and effectiveness of the \textit{Designs Act 2003} in supporting innovation, having regard to: any new opportunities for enhancing the Act’s effectiveness and efficiency; and any deficiencies and unintended consequences arising from the Act’s implementation”.


\textsuperscript{76} Recommendation 10.

\textsuperscript{77} Recommendation 17.

\textsuperscript{78} Recommendation 20.

Much hype continues around the disruptive effects of 3D printing technologies, but this needs to be weighed up against other disruptive activities.\textsuperscript{80} It is, perhaps, trite to state that as the cost of the technology falls, the impact of 3D printing is likely to increase.\textsuperscript{81} This chapter does not prescribe any reforms to the \textit{Designs Act 2003} (Cth), that task is left for others to ponder over. Despite low levels of participation in the Australian designs system; manufacturers, and designers require clarification on this subject.\textsuperscript{82} A defining characteristic of 3D printing is its potential to disrupt many areas of law, as other chapters demonstrate.\textsuperscript{83} Presently, the remedies for preventing the unauthorised use of registered designs via 3D printing remain limited in the Australian context. While 3D printing could create new policy challenges in the future, any reform to the current designs system should not be premised on hypothetical worst-case scenarios.


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