

THE IMPACT OF 3D PRINTING ON CANADIAN TRADEMARK LAW: SELECTED ISSUES AND POTENTIAL SOLUTIONS*

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ABSTRACT

The advent of three-dimensional (3D) printing may prove to be the most important technological innovation since the Internet. If and when 3D printing enters the mainstream, a paradigm shift in the way we consume and distribute goods might occur. The technology could enable one to print useful and artistic objects at home, obviating the need for much of the current supply chain for some goods. While 3D printing holds promise, legal and business hurdles lie ahead. Intellectual property (IP) rights holders are sure to be some of the most affected by 3D printing. The IP implications of 3D-printing technology are myriad, transcending patent, trademark, industrial design, and copyright law. Although much of the discussion thus far has centred on patent and copyright law, this article explores and analyzes some of 3D printing's potential impact on Canadian trademark law.

RÉSUMÉ

L'arrivée de l'impression tridimensionnelle (3D) pourrait s'avérer la plus importante innovation technologique depuis l'Internet. Un changement de paradigme sur la façon dont nous consommons et distribuons les produits pourrait se produire si l'impression 3D se généralise et au moment de son entrée dans le courant principal. Cette technologie pourrait permettre d'imprimer des objets utiles et artistiques à partir de la maison, éliminant ainsi la nécessité de presque toute la chaîne d'approvisionnement actuelle pour certains produits. Même si la technologie de l'impression 3D semble très prometteuse, certains obstacles juridiques et commerciaux sont à prévoir. Les titulaires de droits de propriété intellectuelle (PI) seront sans doute les plus concernés par l'impression 3D. Les répercussions de la technologie d'impression 3D pour la PI sont innombrables, transcendant le droit sur les brevets, les marques de commerce, les dessins industriels, ainsi que le droit d'auteur. Même si les discussions ont presque toujours essentiellement porté sur le droit des brevets et le droit d'auteur, cet article explore et analyse un certain nombre d'éventuels impacts de l'impression 3D pour le droit des marques de commerce au Canada.

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1.0 INTRODUCTION

The advent of three-dimensional (3D) printing may prove to be the most important technological innovation since the Internet. If and when 3D printing enters the mainstream, a paradigm shift in the way we consume and distribute goods might

occur. The technology could enable one to print useful and artistic objects at home, obviating the need for much of the current supply chain for some goods. While 3D printing holds promise, legal and business hurdles lie ahead. Intellectual property (IP) rights holders are sure to be some of the most affected by 3D printing.

According to Gartner Inc., a leading information technology research and advisory firm, 3D printing will cost IP owners at least \$100 billion per year globally by 2018.¹ The same report notes that much of the infringing activity will come from Western rather than Asian markets. This is largely due to the rapid decrease in 3D-printer costs and major advancements in resolution and types of printing materials.² Indeed, there have already been strides in creating technologies designed to thwart IP rights holders' efforts to limit 3D-printer users' ability to transfer allegedly infringing files.³

Others offer a less catastrophic view of how 3D printing might affect IP rights. According to technology analyst Melba Kurman, "3D-printing infringement will impact only a few, specific industries, and even there, 3D-printed manufacturing will have a gradual and localized effect."⁴ Whatever the degree and locus of impact, 3D-printing technology is sure to pose challenges to businesses across many markets.

The IP implications of 3D-printing technology are myriad, transcending patent, trademark, industrial design, and copyright law. Although much of the discussion thus far has centred on patent and copyright, this article explores and analyzes some of 3D printing's potential impact on Canadian trademark law.

This article begins with a short primer on 3D-printing technology. In order to appreciate 3D printing's implications, it is important to appreciate the current and future capabilities of consumer-grade 3D printers.

The article then identifies and explores a few potential problems that 3D printing could pose for Canadian trademark owners. Some of these issues go to principles at the very core of trademark law in Canada and beyond: use and confusion. The issues are explored through hypothetical examples based on how computer-aided design (CAD) files, the digital files containing instructions for printing 3D models, will likely be shared and implemented by 3D-printer users. While trademark causes

¹ "Gartner Reveals Top Predictions for IT Organizations and Users for 2014 and Beyond," Press Release, *gartner.com* (8 October 2013), online: <<http://www.gartner.com/newsroom/id/2603215>> ["Gartner Reveals Top Predictions"].

² See Section 2.0, below.

³ Kyle Maxey, "Hiding Contraband in Encrypted 3D Models," *Engineering.com* (7 November 2013), online: <<http://www.engineering.com/3DPrinting/3DPrintingArticles/ArticleID/6599/Hiding-Contraband-in-Encrypted-3D-Models.aspx>>.

⁴ Melba Kurman, "Carrots, Not Sticks: Rethinking Enforcement of Intellectual Property Rights for 3D-Printed Manufacturing" (2014) 1:1 3D Printing & Additive Manufacturing 45 at 47.

of action like infringement and depreciation of goodwill should remain unhindered with regard to large-scale commercial infringement perpetrated by way of 3D printing, the law is ill-equipped to police discrete infringements committed by individual users in their own homes. The case will be made that this “death by a thousand cuts” scenario (similar to the threat, real or perceived, that the music and film industries faced in the early days of Internet file sharing) could present a real threat to certain brand owners.

Finally, this article proposes some possible solutions to the identified issues (but does not expressly endorse any one of the proposed solutions). In all likelihood, there is no single solution to the identified issues. The proposed measures might nonetheless prove worthy of consideration if and when 3D-printing technology reaches a critical consumer mass, rendering some or all of the identified issues a reality.

Readers should note that this article intentionally does not address 3D trademarks specifically. Suffice it to say that the points made below apply equally to a two-dimensional (2D) trademark applied to a 3D article, a 3D trademark making up all or part of a 3D article, and a 3D trademark affixed to a 3D article. Discussion of how owners of 3D trademarks might (or might not) face particular challenges, and the interplay between 3D trademarks, copyright, and ID rights, is beyond the scope of this article. Furthermore, these issues, while potentially interesting, do not hinge on 3D printing specifically, although the technology could render them more salient.

2.0 3D-PRINTING TECHNOLOGY PRIMER

Three-dimensional printing is a more popular way to refer to “additive manufacturing,” an industry-standard term defined as “the process of joining materials to make objects from 3D model data, usually layer upon layer, as opposed to subtractive manufacturing methodologies.”⁵ A key difference between additive and subtractive manufacturing is that the former creates little to no waste. Only the material needed to form the object is used. Subtractive manufacturing, as the name suggests, involves removing excess material to form the desired object, as one chisels a block of stone into a sculpture.

Three-dimensional printing first appeared over 40 years ago. The earliest US patent for a “[m]ethod, medium and apparatus for producing three-dimensional figure product” was filed in 1971.⁶ Since then, several technologies have been developed into what we now call 3D printers. A few of these are stereolithography,⁷

⁵ This is the definition provided by the American Society for Testing and Materials (ASTM) in ASTM F2792 12a, Standard Terminology for Additive Manufacturing Technologies (Withdrawn 2015), online: <<http://www.astm.org/Standards/F2792.htm>>.

⁶ US Patent no 4041476.

⁷ Created by 3Dsystems Inc. founder Charles Hull and patented in 1986 (US patent no 4575330).

fused deposition modelling,⁸ and selective laser sintering.⁹ While the cutting edge of 3D printing can be found on the commercial level, consumer-grade 3D printers implementing each of these technologies, and others, are increasingly powerful and affordable.¹⁰

Early 3D printers were limited in the types of printing materials they employed. Initially, only polymers were used. Modern 3D printers can print using various materials, including plastics, metals such as bronze and iron, limestone, wood, nylon, other fabrics—and even food.¹¹

To create an object, 3D printers require instructions. In the same way that paper printers are provided with instructions from document and image file types such as .docx, .jpg, and .eps, 3D printers are given instructions by means of CAD files.¹² CAD files contain the design information required to print an object.¹³ They are executed by way of specialized 3D-printing software.

For 3D-printing purposes, CAD files are created in one of two ways: (1) manually, using CAD software to produce a 3D-printable object from scratch or from a template; or (2) using a 3D scanner to scan an existing object. The first method enables virtually limitless creativity in design and manufacture; the second allows for highly accurate digital representation of an object, no matter how intricate or detailed, that is capable of reproduction through 3D printing.

As 3D printers improve in speed and capability, and as printing materials increase in number, the limitations on the sorts of objects that the average user can print will diminish. As the scope of what can be printed grows, so too does the number of affected businesses and industries. Trademark owners dealing in anything from toys to apparel to smart phones may eventually find themselves faced with 3D-printed imitations of their products offered, often for free, via digital download.

Indeed, CAD files are already traded and sold online. Large, searchable CAD file repository websites allow users to download CAD files for all kinds of objects. In this environment of low-cost printers and materials and widely available printable designs of every description, 3D printing may reach a critical consumer mass in the near future. If it does, the issues and solutions identified in the following sections may come into play.

⁸ Created by Stratasys Ltd. founder Scott Crump and patented in 1989 (US patent no 5121329).

⁹ Created by University of Texas student Carl Deckard and his professor Joseph Beaman and patented in 1992 (US patent no 5155324).

¹⁰ As of this writing, several models are available for less than US\$1,000. See e.g. Printrbot <<http://printrbot.com>>.

¹¹ Jelmer Luimstra, “Edible Growth: Food Printing’s Next Big Thing?” *3dprinting.com* (23 October 2014), online: <<http://3dprinting.com/food/edible-growth-food-printings-next-big-thing/>>.

¹² CAD files were originally developed by Autodesk Inc. for its AutoCAD software.

¹³ There are a number of different file extensions for CAD files. Some of these are proprietary, such as .3ds, employed by Autodesk in its 3Ds Max software. Others are made for use with specific 3D-printing technologies, such as .stl, which is used with stereolithography printers and software.

3.0 TRADEMARK ISSUES

Much of the mischief that 3D-printing technology might cause trademark owners is driven by the power of a single CAD file to create virtually limitless copies of a trademark-bearing object, coupled with the Internet's awesome distribution power. Never before has a brand owner needed to worry about a computer-savvy individual making a template in his or her basement allowing potentially millions to individually manufacture knock-offs.

This section examines a few potential issues that trademark owners may face, both now and when 3D-printing technology reaches the point where the average consumer owns a 3D printer. First, it explores what could become a prevalent and potentially disruptive activity: uploading and downloading CAD files for trademark-bearing objects. In some instances, this activity will likely fall outside the statutory definition of "use" under the *Trade-marks Act*, and therefore outside the trademark-related causes of action: infringement, depreciation of goodwill, and passing off.

Next, we analyze sections 19 and 20, the Act's infringement provisions, and how they may prove less effective enforcement tools in a CAD file-sharing scenario. Infringement under section 20 requires the plaintiff to prove a reasonable likelihood of confusion in the eyes of the average Canadian consumer of the goods in question. The confusion doctrine also fits poorly into the CAD file-sharing context. Three issues with the current "confusion framework" that may pose challenges will be identified.

Finally, this section looks at the three different actors in the CAD file-sharing scenario—the uploader, the repository website, and downloaders—and considers the situations in which each might attract liability.

3.1 The "Use" Issue

Consider the following scenario: an individual uploads to a repository website a CAD file of a trademark-bearing article—say, a designer shoe. The website's users then download the CAD file for free. In this situation, the trademark owner should primarily concern itself with obtaining an injunction to have the file removed, as quickly as possible. Obtaining an injunction is essential for two reasons: to mitigate damages and to maintain the trademark's distinctiveness.

The second reason is particularly important, because a trademark that loses its distinctiveness can no longer effectively distinguish its associated goods or services. If this happens, the trademark registration could be expunged in accordance with section 18(1)(b) of the Act.¹⁴

¹⁴ "The registration of a trade-mark is invalid if ... (b) the trade-mark is not distinctive at the time proceedings bringing the validity of the registration into question are commenced": *Trade-marks Act*, RSC 1985, c T-13 ["the Act"].

If a CAD file is downloaded and executed thousands or even millions of times, there may come a point when the average Canadian consumer, seeing the trademark on the street, could not comfortably assume that the goods in question originated with the trademark owner. If this doubt could be proven by demonstrating that knock-off items are readily available, a plaintiff in an infringement action might be genuinely concerned about a counterclaim for expungement under section 57 of the Act.

To succeed in an action for trademark infringement under section 19, a plaintiff must demonstrate that the defendant “used” the trademark. Under section 20, the defendant must have used a confusingly similar trademark. Section 22 requires use of a “sufficiently similar” trademark.¹⁵ The use requirement comes from case law¹⁶ but also from the wording of those provisions.

Section 19 states: “*the registration of a trade-mark in respect of any goods or services, unless shown to be invalid, gives to the owner of the trade-mark the exclusive right to the use throughout Canada of the trade-mark in respect of those goods or services*” (emphasis added). The relevant portion of section 20(1) reads: “The right of the owner of a registered trade-mark to its *exclusive use* is deemed to be infringed by any person who is not entitled to its use under this Act” (emphasis added). Section 22 also makes reference to use: “*No person shall use a trade-mark registered by another person in a manner that is likely to have the effect of depreciating the value of the goodwill attaching thereto*” (emphasis added).

“Use” carries a special definition in Canadian trademark law. Section 4(1) defines “use” in relation to goods:

A trade-mark is deemed to be used in association with goods if, at the time of the transfer of the property in or possession of the goods, in the normal course of trade, it is marked on the goods themselves or on the packages in which they are distributed or it is in any other manner so associated with the goods that notice of the association is then given to the person to whom the property or possession is transferred.

Two components of this definition are of particular interest: (1) “normal course of trade” and (2) “marked on the goods themselves ... or ... in any other manner so

¹⁵ *Veuve Clicquot Ponsardin v Boutiques Cliquot Ltée*, 2006 SCC 23 at para 38, [2006] 1 SCR 824 [Veuve].

¹⁶ *Ibid* at paras 47-49; *Clairol International Corp v Thomas Supply & Equipment Co* (1968), 55 CPR 176 at para 3, [1968] 2 Ex CR 552 [Clairol]; *Pro-C Ltd v Computer City Inc* (2001), 14 CPR (4th) 441 at para 12, 2001 CanLII 7375 [Pro-C]; *Red Label Vacations Inc (RedTag.ca) v 411 Travel Buys Ltd (411 Travel Buys Limited)*, 2015 FCA 290 at para 20, citing *Compagnie Générale des Établissements Michelin-Michelin & Cie v National Automobile, Aerospace, Transportation and General Workers Union of Canada*, [1997] 2 FC 306 at paras 22 and 26 [Michelin]. See also *American Distillery Co Ltd v Canadian Schenley Distillers Ltd* (1979), 38 CPR (2d) 60, [1977] FCJ No 1105 (QL) (TD); and *Molson Companies Ltd v Halter* (1977), 28 CPR (2d) 158, [1976] FCJ No 302 (QL) (TD) [Halter].

associated with the goods that notice of the association is then given to the person to whom the property or possession is transferred.”

3.1.1 Use in the Normal Course of Trade

To be “used” within the meaning of section 4(1), a trademark must be marked on or associated with goods that are transferred in the “normal course of trade.” If the CAD file in our scenario is sold on the repository website, this element of the use requirement has likely been satisfied. What if the CAD file is offered for free? Can such an activity fall under the rubric of trade for the purposes of section 4(1)?

The term “trade” is not defined in the *Trade-marks Act*. A commonsense interpretation implies some manner of value exchange—either money for goods and/or services, or an exchange of goods and/or services between parties. This is consistent with the French version of section 4(1), which employs the phrase “dans la pratique normale du commerce.”¹⁷ In a scenario where an individual uploads a CAD file that is then freely downloaded, the value flows in only one direction; there is no exchange, and thus no trade.

Since trademark infringement actions have, to the author’s knowledge, only ever been undertaken successfully against commercial entities (or entities engaging in commercial conduct), there is little case law directly on point. One court refused to consider a union’s use of a tire manufacturer’s trademark on leaflets to constitute “use” because the union was not engaging in commercial activity.¹⁸

A handful of other decisions have addressed the meaning of use as applied to goods.¹⁹ Justice Heald provided a definition for “normal course of trade” in *Manhattan Industries Inc v Princeton Manufacturing Ltd*: “I think that those words [‘in the normal course of trade’] must surely mean that s. 4 contemplates the normal course of trade as beginning with the manufacturer, ending with the consumer and with a wholesaler and retailer or one of them as intermediary.”²⁰ Other courts have applied this definition, which remains unchallenged.²¹

The understanding of trade set out in *Manhattan Industries* is also consistent with the case law on the tort of passing off, trademark infringement’s common law

¹⁷ While the term “commerce” most commonly corresponds with the term “trade” in English, it may also mean “business.” This strengthens the implication that the defendant in a trademark infringement action must be a commercial entity, or at least acting in a commercial manner.

¹⁸ *Michelin*, *supra* note 16 at paras 38-40.

¹⁹ As discussed below, the use requirement in relation to services is different. With services, it is sufficient that they have been advertised in Canada so long as they have been performed or are available to be performed in Canada. See *Express File Inc v HRB Royalty Inc*, 2005 FC 542.

²⁰ *Manhattan Industries Inc v Princeton Manufacturing Ltd* (1971), 4 CPR (2d) 6 at para 40, [1971] FCJ No 1012 (QL) (TD) [*Manhattan Industries*].

²¹ *Havana House Cigar & Tobacco Merchants Ltd v Skyway Cigar Store* (1998), 81 CPR (3d) 203 at 218, 1998 CanLII 7773 (TD); and *JC Penney Co v Gaberdine Clothing Co*, 2001 FCT 1333 at para 73.

predecessor and statutory counterpart. In *Consumer's Distributing Co v Seiko*, the Supreme Court of Canada endorsed the view that passing off is rooted in the "recognition of perceived benefits to the community from free and fair competition."²² Competition in this context should properly mean competition between market competitors. In our scenario, in addition to trademark infringement and depreciation of goodwill, it seems a plaintiff would be precluded from claiming passing off, either in tort or under sections 7(b), (c), and (d) of the Act.²³

It therefore appears that in our scenario there is no trade, provided that the CAD file is offered for free, and consequently no use within the meaning of section 4(1). If this is true, a trademark owner likely cannot successfully sue an individual CAD file uploader under section 19, 20, or 22.²⁴

It is worth noting that, unlike in the copyright context, trademark owners have never yet faced the threat of large-scale "benevolent infringement."²⁵ The foregoing analysis demonstrates that, given the use requirement, trademark owners must contend with an additional (and formidable) hurdle that does not encumber copyright owners who are contemplating enforcement proceedings.

3.1.2 Is the Trademark "Marked On" or "Associated With" the CAD File?

Section 4(1) also requires that the trademark be "marked on the goods themselves or on the packages in which they are distributed" or "in any other manner so associated with the goods that notice of the association is then given to the person to whom the property or possession is transferred." Since CAD files are digital, they cannot be "marked" in a physical sense, nor are they packaged.

The digital equivalent to marking a physical object might be using the trademark in the file name—for example, "Air_Jordan.3ds." In the domain name context, using a trademark as a domain name (or part of one) has been held to satisfy the use requirement.²⁶ It would thus stand to reason that including the trademark in the CAD file name might satisfy the marking requirement under section 4(1).

What if the trademark is merely displayed on the page housing the link to the CAD file? There is authority for the proposition that displaying a trademark on a

²² *Consumer's Distributing Co v Seiko*, [1984] 1 SCR 583.

²³ See *Ciba-Geigy Canada Ltd v Apotex Inc*, [1992] 3 SCR 120 [*Ciba*]. While these provisions are beyond the scope of this article, they bear consideration in the 3D-printing context as well.

²⁴ With respect to section 22 specifically, the Supreme Court of Canada compared that provision to the anti-dilution provisions in the US *Lanham Act*. The court cited an excerpt from legislative reports expressly stating that the provision was meant to protect against "commercial use." See *Veuve*, *supra* note 15 at para 41.

²⁵ "Benevolent infringement" refers to file-sharing infringement where the infringer usually offers the infringing media for free.

²⁶ See *British Columbia Automobile Assn v Office and Professional Employees' International Union, Local 378*, 2001 BCSC 156 [*British Columbia Automobile Assn*].

computer screen in Canada is sufficient to constitute use in relation to a service, provided that those services are available for performance in Canada.²⁷ While those cases do not apply to use for goods under section 4(1), the ordinary meaning of “in any other manner so associated with the goods that notice of the association is given” should be construed to include instances in which the trademark is used on the download page to identify or describe the CAD file. The trademark’s purpose on the download page is precisely to give notice of the association between the trademark and the CAD file. One might reasonably argue, then, that a CAD file is technically marked by or associated with the trademark if the trademark is featured in the file name or on the download page.

It would nevertheless be trivially easy for an uploader to circumvent the use requirement while still clearly identifying the CAD file’s content. For example, instead of “Air_Jordan.3ds,” the file could be named “AJ_Basketball_Shoes.3ds.” The uploader does not use the trademark, and yet the file name still identifies the file’s contents. The uploader could employ the same technique on the download page.

3.1.3 A Way Around the Use Requirement?

The case law makes clear that use in the meaning of section 4 is required to prove infringement or depreciation of goodwill under section 20 or 22, respectively. But those provisions could be read alternatively to effectively do away with the use requirement.

A word presumably carries the same meaning wherever it appears in a statute unless the situation dictates otherwise.²⁸ The argument can be made that sections 20 and 22 are just such exceptions.

The first part of section 20(1) reads as follows:

20(1) The right of the owner of a registered trade-mark to its exclusive use *is deemed to be infringed by any person who* is not entitled to its use under this Act and who

(a) sells, *distributes* or advertises any *goods or services in association with a confusing trade-mark* or trade-name [emphasis added].

The opening paragraph does reference the exclusive right to use the trademark, which refers to section 4. But section 20 is drafted as a deeming provision. According to the Supreme Court of Canada, a deeming provision is “a statutory fiction which plays a function of enlargement.”²⁹ If section 20 is a deeming provision, the

²⁷ *Unicast SA v South Asian Broadcasting Corporation Inc*, 2014 FC 295 at para 46 [*Unicast SA*]; *HomeAway.com, Inc v Hrdlicka*, 2012 FC 1467 at para 22 [*Hrdlicka*]; and *Hayes v Sim & McBurney*, 2010 FC 924 at para 26 [*Sim & McBurney*].

²⁸ See Ruth Sullivan, *Statutory Interpretation*, 2nd ed (Toronto: Irwin Law, 2007) at 167; and Antonin Scalia & Brian A Garner, *Reading Law: The Interpretation of Legal Texts* (St Paul, Minn: Thompson/West, 2012) at 170.

²⁹ *R v Verrette*, [1978] 2 SCR 838 at 847. See also *Sero v Canada*, 2004 FCA 6 at para 40, [2004] 2 FCR 613; and *The Queen v Lachance*, 94 DTC 6360, [1994] FCJ No 263 (QL) (CA).

“use” definition would be modified for the purposes of the section to mean whatever comes after the words “deemed to be infringed.” In this case, the rights are deemed to be infringed if an unauthorized person, *inter alia*, “sells, distributes or advertises any goods or services in association with a confusing trade-mark.”

Construing section 20 in this manner is consistent with section 15 of the *Interpretation Act*:

15(1) Definitions or rules of interpretation in an enactment apply to all the provisions of the enactment, including the provisions that contain those definitions or rules of interpretation.

(2) *Where an enactment contains an interpretation section or provision, it shall be read and construed*

(a) *as being applicable only if a contrary intention does not appear* [emphasis added].³⁰

Section 4 is part of the “interpretation” portion of the *Trade-marks Act*.³¹ By further qualifying what constitutes infringing trademark use in section 20, the drafting arguably suggests a “contrary intention” within the meaning of section 15(2)(a) of the *Interpretation Act*.

A similar argument can be made for section 22: “No person shall *use a trade-mark* registered by another person *in a manner that is likely to have the effect of depreciating the value of the goodwill attaching thereto*” (emphasis added). While section 22 does not employ the word “deemed,” one could argue that the word “use” is still qualified. Section 22 can be read two ways:

1. **Broadly:** One cannot *use* (in the generic sense of the word) a trademark in a manner that is likely to cause the goodwill in the trademark to depreciate.
2. **Narrowly:** One cannot *display a trademark on goods or packaging or in association with those goods in the normal course of trade* in a manner that is likely to cause the goodwill in the trademark to depreciate.

The second interpretation (requiring section 4 “use”) is currently favoured. The controlling decision on section 22, *Veuve*, confirms that section 4 is required to prove depreciation of goodwill. Its predecessor decision, *Clairol International Corp v Thomas Supply & Equipment Co*, offers a justification for reading section 22 to require use.³²

In the latter case, *Clairol* sued a competitor for, among other things, depreciation of goodwill caused by the use of *Clairol*’s trademark on the defendant’s hair dye colour comparison charts. The court held that in order to breach section 22, a person

³⁰ *Interpretation Act*, RSC 1985, c I-21.

³¹ Sections 2-6 of the Act.

³² *Clairol*, *supra* note 16. See also *British Columbia Automobile Assn*, *supra* note 26 at para 150; and *Michelin*, *supra* note 16 at para 17.

must use the trademark within the meaning of section 4.³³ Justice Thurlow reasoned that to attribute a broader definition of use in this context would lead to an absurd state of affairs:

Indeed, in its ordinary sense the language seems broad enough to include a conversation in which a person adversely criticizes goods which he identifies by reference to their trade mark [A trademark] is also used in this sense in the course of trade when a sales clerk makes reference to it in the course of discussing the merits of the owner's goods with a customer, whether in comparison with the goods of other traders or not. Such uses could, depending on what was being said, tend to adversely affect the goodwill attaching to a trade mark but I do not think the statute is intended to forbid legitimate comparisons or criticisms of that kind.³⁴

While Justice Thurlow's apprehension about attributing too broad a definition to the word "use" in section 22 makes sense in the context above, the present scenario differs significantly from what he seemingly envisioned. He does not appear to have considered a situation in which a trademark owner seeks to prevent an individual from distributing trademark-bearing goods (or the means to create them), which themselves may depreciate the trademark's goodwill. More specifically, the trademark owner's inability to control the character and quality of the printed objects may damage the trademark's goodwill, even though the CAD file uploader and downloader are not using the trademark (or a sufficiently similar trademark). This is especially true when the 3D-printed knock-off's design or construction is inferior.

Like the confusion concept, the use concept performs several functions in trademark law. Currently, and until recent legislative amendments come into force, an applicant has to show use or proposed use to demonstrate a trademark's registrability under section 30 of the Act. Whether a trademark was used by a person other than the trademark applicant determines entitlement under section 16. Proof of non-use is also grounds for expungement under sections 45 and 57. The definition found in section 4 applies in all of those contexts. However, in none of those provisions is the word "use" limited by other language as in sections 20 and 22.

As alluded to earlier, although one can interpret sections 20 and 22 in the manner suggested here, courts are unlikely to part with entrenched jurisprudence requiring section 4 use under both of those provisions. This reasoning suffers from another problem: it is entirely textual in nature and does not consider the Act's purpose(s).

The Supreme Court of Canada has long since endorsed the "Driedger method" of statutory construction. As quoted by Iacobucci J in *Rizzo & Rizzo Shoes Ltd (Re)*: "Today there is only one principle or approach, namely, the words of an Act are to be read in their entire context and in their grammatical and ordinary sense harmoniously with the scheme of the Act, the object of the Act, and the intention of Parliament."³⁵ A purely textual reading of sections 20 and 22 thus may not find

³³ *Clairol*, *supra* note 16 at paras 36-38.

³⁴ *Ibid* at para 36.

³⁵ *Rizzo & Rizzo Shoes Ltd (Re)*, [1998] 1 SCR 27 at para 21.

favour with some judges and scholars in light of trademark law's understood purposes.

According to Daniel Gervais and Elizabeth Judge, trademark legislation serves two purposes: (1) "to protect the public by indicating the source of goods and services in order that purchasers can reduce their search costs, identify the level of quality they seek, and receive a similar product or consistent service over time";³⁶ and (2) "to protect the trade-mark owner against *commercial misappropriation* of the value and/or the goodwill associated with the mark."³⁷ Imputing liability to the CAD file uploader, website repository, or downloader serves neither of these goals.

As discussed in greater detail below, the first goal, consumer protection, is not served because of the lack of consumer confusion in the scenario. The CAD file downloader knows what he or she is getting when downloading a CAD file from a repository website.

There is also no risk of increased search costs because an individual looking for a genuine article will not waste time or effort on CAD file knock-offs. An apposite analogy is the situation with knock-off handbags and other fashion accessories. The average Canadian consumer would likely not be confused into thinking a handbag sold at a flea market for \$50 is a genuine Gucci, regardless of how closely it mimics the genuine article, or how profusely the salesperson proclaims its authenticity. As addressed in greater detail below, just as one does not look for genuine Gucci at the flea market, one does not visit a third-party CAD file repository site expecting to find that their favourite brands suddenly decided to offer a means of creating their market offerings for free.

The second goal is likewise not served by expanding the scope of trademark infringement to include non-commercial activities. This is because there is no "commercial misappropriation." While the uploader in this situation arguably misappropriates the trademark, that misappropriation is not *commercial*. Extending the use definition to capture the uploader would accordingly fail to further trademark law's emphasis on fair commercial competition.

3.2 Shortcomings of Section 19

Assume for a moment that the CAD file meets the section 4(1) use requirement. At first glance, it seems that a trademark owner should succeed in an infringement action against a defendant who offers a CAD file that contains instructions for printing trademark-bearing goods identical to those set out in the plaintiff's trademark registration. In that case, the plaintiff need not show confusion since the

³⁶ Daniel Gervais & Elizabeth F Judge, *Intellectual Property: The Law in Canada*, 2nd ed (Toronto: Carswell, 2011) at 318, cited with approval in *Solutions Abilis Inc v Groupe Alithis Inc*, 2013 QCCS 1179 at para 22.

³⁷ *Ibid* (emphasis added).

trademark owner's exclusive right to use the mark under section 19 of the Act will have been infringed.³⁸

Section 19 reads as follows:

19. Subject to sections 21, 32 and 67, the *registration of a trade-mark in respect of any goods or services*, unless shown to be invalid, gives to the owner of the trade-mark the exclusive right to the use throughout Canada of the trade-mark in respect of those goods or services. [Emphasis added.]

This provision applies only when the alleged infringer uses a marking that is identical to the registered trademark.³⁹ It also only applies “in respect of those goods or services” in relation to which the trademark is registered.⁴⁰ Each of these requirements presents potential hurdles to section 19's application in the 3D-printing environment.

3.2.1 Resemblance Between the Registered Trademark and the Allegedly Infringing Mark

In the 3D-printing context, section 19 would generally prove most useful when an object featuring the trademark is scanned into CAD format. In that case, one could not question the exactitude of the trademark's reproduction on the allegedly infringing good.

Recall that one can also create CAD files manually using specialized CAD software. When an object is “copied” this way, there exists a greater chance that the allegedly infringed trademark will not appear exactly as registered. The deviation could be deliberate or it could result from limited artistic or technical skill. Generally, if there is more than a minor deviation between the trademark as registered and the allegedly infringing mark, the trademark owner cannot proceed through section 19.⁴¹ Whether two trademarks are identical is a question of fact.⁴²

³⁸ *Gary Gurmukh Sales Ltd v Quality Goods IMD Inc*, 2014 FC 437 at paras 48 and 83 [*Quality Goods*]; *Mr Submarine v Amandista Investments Ltd* (1987), [1988] 3 FC 91 at para 10, 14 FTR 160n (CA) [*Mr Submarine*]; and *Mido G Schaeren and Co SA c Turcotte*, [1965] 2 Ex CR 451 at 455-56, 49 CPR 218. See also Harold G Fox, *The Canadian Law of Trade Marks and Unfair Competition*, 3rd ed (Toronto: Carswell, 1972) at 374-75.

³⁹ See *Venngo Inc v Concierge Connection Inc (Perkopolis, Morgan C Marlowe and Richard Thomas Joynt)*, 2015 FC 1338 at paras 95-96 [*Venngo*]; *A & W Food Services of Canada Inc v McDonald's Restaurants of Canada Ltd*, 2005 FC 406 at paras 9-13 [A & W]; *Mr Submarine*, *supra* note 38; *Standard Knitting Ltd v Toyota Jidosha Kabushiki Kaisha* (2000), 8 CPR (4th) 285 at 287, 2000 CanLII 15925 (FC) [*Standard Knitting*]; and *Michelin*, *supra* note 16 at para 19.

⁴⁰ *Ibid.*

⁴¹ *Clairol*, *supra* note 16; *A & W*, *supra* note 39 at para 13; *Mr Submarine*, *supra* note 38; *417394 Alberta Ltd v H2O Co Beverages Ltd*, 2005 FC 224 at para 18; and *H-D USA v Berrada*, 2014 FC 207 at para 199. Note *Quality Goods*, *supra* note 38, where the court appeared to deviate from the accepted approach.

⁴² There is authority, though not directly on point, for the proposition that assessing whether two trademarks are identical for the purpose of a section 45 expungement hearing is a question of fact.

Once an image is created in (or imported into) CAD software, it becomes trivially simple to modify the image. Consider the “Nike swoosh,” for example. It is easy to alter the shape slightly without skewing it so much that it loses its immediate association with the Nike brand:

As registered*Modified*

The only differences between these two images are that the modified version’s proportions have been altered to stretch the image vertically and the image has been rotated 11 degrees counterclockwise. The modified image was then resized so that it occupies approximately the same space as the original image. In principle, this minor modification is enough to oust section 19’s application.

Given section 19’s limited scope, a creative plaintiff might look elsewhere to broaden it. In *Registrar of Trade Marks v CII Honeywell Bull, SA*, the Federal Court of Appeal set out the test to determine, in the context of section 45 expungement proceedings, whether a variation of a trademark still constitutes use within the meaning of the Act:

The practical test to be applied in order to resolve a case of this nature is to compare the trade mark as it is registered with the trade mark as it is used and determine whether the differences between these two marks are so unimportant that an unaware purchaser would be likely to infer that both, in spite of their differences, identify goods having the same origin.⁴³

In the section 45 context, the trademark will be considered used if the modified version maintains the mark’s “dominant features.”⁴⁴

At least one decision has cited *Honeywell* in the section 19 context.⁴⁵ Still, given the weight of authority requiring identity between the registered and allegedly

See *Henderson v Quinwood Limited*, 2014 TMOB 48 at para 11; *Star Island Entertainment LLC v Provent Holdings Ltd*, 2013 TMOB 84 at para 17; *Reckitt Benckiser (Canada) Inc v Tritap Food Broker*, 2013 TMOB 65 at para 19; and *Cameron MacKendrick v Phoenix Brands Canada Laundry LLC*, 2013 TMOB 147 at para 15.

⁴³ *Registrar of Trade Marks v CII Honeywell Bull, SA*, [1985] 1 FC 406 at 425, 4 CIPR 309 (CA) [*Honeywell*]; and *Bauer Hockey Corp v Easton Hockey Canada, Inc*, 2016 FC 1373 at para 11.

⁴⁴ *Saccone & Speed Ltd v Registrar of Trade Marks* (1982), 67 CPR (2d) 119 at 127, [1982] FCJ No 242 (QL) (TD); and *Promafil Canada Ltée v Munsingwear, Inc* (1992), 44 CPR (3d) 59, [1992] FCJ No 611 (QL) (CA).

⁴⁵ *Standard Knitting*, *supra* note 39 at para 6.

infringing trademarks under section 19, it remains an open question whether this argument would succeed.

3.2.2 Scope of the Registration

Section 19 applies only when the allegedly infringing mark appears “in association with wares identical to those for which the trade-mark was registered for use.”⁴⁶ Accordingly, if a trademark owner wishes to claim that the CAD file (and not only the object it enables one to print) infringes, the registration would presumably have to include as a class of goods something like “CAD files for making X.” In the apparel context, for section 19 to apply, it would be insufficient for the CAD file to enable one to print a hat identical to a trademark-bearing hat. As long as the trademark owner’s registration does not cover “CAD files for making hats,” he or she should not be able to proceed by way of section 19.

At first glance, this outcome might appear unjust to trademark owners. It allows for a world in which an individual could enable potentially millions of others to create a trademark-bearing item and the trademark owner would still have to prove a reasonable likelihood of confusion under section 20. As discussed in the next section, this may be easier said than done in the 3D-printing context, rendering section 19 all the more vital a tool for trademark owners. Despite its apparent unfairness, this outcome is consistent with the fact that a trademark owner’s exclusive right extends only to the goods and services with which it is registered.⁴⁷

This outcome is also consistent with the principle of technological neutrality. Technological neutrality provides that courts should interpret laws so as to achieve a uniform result, regardless of the technologies implicated. The Supreme Court of Canada most recently endorsed the principle in the copyright context in *Entertainment Software Association v Society of Composers, Authors and Music Publishers of Canada*.⁴⁸

The court in *ESA* had to decide whether a tariff covering the communication of musical works over the Internet should apply to musical works included in video-game downloads. As a matter of law, the court needed to determine whether a download constituted a “communication of a work to the public by telecommunication” under section 3(1)(f) of the *Copyright Act*.⁴⁹ Writing for the majority, Abella J said that it did not. She reached this conclusion partly on the basis that the tariff clearly would not apply if the videogames had been purchased in stores rather than

⁴⁶ *Quality Goods*, *supra* note 38 at para 83.

⁴⁷ *Masterpiece Inc v Alavida Lifestyles Inc*, 2011 SCC 27 at para 28, [2011] 2 SCR 387 [*Masterpiece*].

⁴⁸ *Entertainment Software Association v Society of Composers, Authors and Music Publishers of Canada*, 2012 SCC 34, [2012] 2 SCR 231 [*ESA*]. See also *Robertson v Thomson Corp*, 2006 SCC 43 at para 49, [2006] 2 SCR 363.

⁴⁹ *Copyright Act*, RSC 1985, c C-42.

online. She considered it an affront to technological neutrality to impose an additional royalty fee based solely on the fact the consumer purchased the game online rather than in-store.

The principle of technological neutrality may apply in the present context as well. First, we must establish a technological analogue to the CAD file. In keeping with the apparel examples, consider a sewing pattern. Like a CAD file, a sewing pattern is not itself a finished product, but a set of instructions to make the product. Where a stereolithography 3D printer shoots out heated materials through jets according to the CAD file's instructions, the sewing machine or needle stitches material (with the aid of human skill) according to the sewing pattern's instructions.

Assume that a trademark is registered in relation to T-shirts. It would be an infringement to sell a T-shirt made with the sewing pattern featuring the registered trademark. But if the trademark is not registered in association with sewing patterns, simply selling the pattern itself will not attract liability.

Likewise, enabling people to create the same object by means of a 3D printer should not be considered infringing simply because the technology is different and perhaps easier to implement than a traditional sewing pattern. If the sewing pattern is not an infringement, the principle of technological neutrality dictates that the CAD file is not either.

The principle of technological neutrality is not absolute, and there is a fairly compelling reason (in the author's opinion) not to apply it in this case. Never before has a technology existed that allows ordinary people to create complex physical objects they would otherwise have to purchase.⁵⁰ If the history of personal computing and 2D printing is any barometer, 3D printers could reach ubiquity. If this comes to pass, and provided that the cost of printing materials is not prohibitively high, printing one's own brand-name hat or shoe will be cheaper and faster than buying it. In that sense, 3D printing is a potentially paradigm-shifting technology. One can create and distribute only so many sewing patterns. But a single CAD file, which can be downloaded and executed an infinite number of times, can give rise to an infinite number of copies of the original object without degrading the original and without putting a significant strain on resources.⁵¹ When confronted with a technological medium so innovative that it significantly alters the way we deal with the content it carries, it might not be the best time to apply the technological neutrality principle.

⁵⁰ Although 2D printing represented a significant game-changer for individuals seeking to reproduce 2D trademarks, the ability to manufacture finished trademark-bearing products (and not just the trademarks themselves) in one operation represents, in the author's view, a potentially paradigm-shifting activity.

⁵¹ Modern Internet service packages make it a trivial matter to download CAD files. The strain on resources, to the extent that it is a factor, is therefore not in CAD file acquisition but in the material cost associated with printing objects.

3.3 Shortcomings of Section 20

When the allegedly infringing mark is not identical to the registered trademark or is used in association with goods or services falling outside the trademark registration, a plaintiff must proceed by way of section 20.⁵² To be successful, the plaintiff must show that the allegedly infringing mark is confusingly similar to the registered trademark. Confusion is assessed from the perspective of the average Canadian consumer of the goods in question with an imperfect recollection of the trademark in issue.⁵³ This person is of “average intelligence.”⁵⁴

Three elements of the confusion analysis might reliably tip the balance in the defendant’s favour when the impugned goods are distributed via CAD file, especially when they are distributed for free. The first is conceptual, and asks whether non-commercial, “benevolent” trademark infringement can even occur. If not, one might argue that confusion is impossible, or at least highly unlikely. The other two elements relate to factors under the section 6(5) confusion analysis: the nature of the goods, services, or business; and the nature of the trade.

3.3.1 Conceptual Issue: “Non-Commercial” Infringement

Is it possible to confuse a consumer of average intelligence into thinking a 3D-printable object is an authentic branded good if the uploader offers the CAD file for free? Many CAD file repository websites allow users to browse and download files free of charge.⁵⁵ Setting aside the use issue described above, and assuming that trademark infringement does not require a sale for profit, could the average Canadian consumer mistake a free CAD file for a genuine market offering?

Even if we discount the typical 3D-printer user’s savviness, it is difficult to imagine anyone reasonably believing that Nike would charge \$150 for a pair of shoes in store, but allow one to print the exact same pair (from a seemingly unaffiliated website) for free. Just as a consumer of average intelligence would not think to acquire a genuine Gucci handbag at a flea market for \$50, no downloader would think that Gucci decided to offer a free Gucci handbag CAD file in lieu of purchasing the bag at full price.

⁵² See *Venngo*, *supra* note 39 at paras 95-98.

⁵³ *Masterpiece*, *supra* note 47 at para 40.

⁵⁴ *Mattel, Inc v 3894207 Canada Inc*, 2006 SCC 22 at para 56, [2006] 1 SCR 772; *Prologic Systems Ltd v Prologic Corporation* (1998), 78 CPR (3d) 435, 1998 CanLII 7221 (FCTD); and *Canadian Schenley Distilleries Ltd v Canada’s Manitoba Distillery Ltd* (1975), 25 CPR (2d) 1, [1975] FCJ No 1130 (QL) (TD).

⁵⁵ In addition to Thingiverse, a cursory web search revealed a number of free CAD file databases, including <grabcad.com>; <www.traceparts.com>; <www.3dcontentcentral.com>; and <3dwarehouse.sketchup.com>.

The fact that the allegedly infringing CAD file is offered for free might also constitute an additional surrounding circumstance under the section 6(5) analysis.⁵⁶ Price difference is rarely dispositive. But the difference between any sum and free could arguably send the average Canadian consumer's incredulity meter into the red. With that suspicion, the likelihood of confusion arguably dissipates.

3.3.2 Statutory Factors

Section 6(5) of the Act houses the confusion analysis:

6(5) In determining whether trade-marks or trade-names are confusing, the court or the Registrar, as the case may be, shall have regard to all the surrounding circumstances including

- (a) the inherent distinctiveness of the trade-marks or trade-names and the extent to which they have become known;
- (b) the length of time the trade-marks or trade-names have been in use;
- (c) the nature of the goods, services or business;
- (d) the nature of the trade; and
- (e) the degree of resemblance between the trade-marks or trade-names in appearance or sound or in the ideas suggested by them.

Two of these elements present interesting issues in the 3D-printing context: the nature of the goods, services, or business; and the nature of the trade.

3.3.2.1 The Nature of the Goods, Services, or Business

This factor compares the goods, services, or business associated with the registered trademark with those of the allegedly infringing mark. The greater the similarity, the greater the likelihood of confusion.⁵⁷

As discussed above, if the trademark owner wishes to claim that a CAD file (not only the object it enables one to print) infringes its trademark, we must treat the

⁵⁶ In *Western Clock Co v Oris Watch Co*, [1931] Ex CR 64 at para 21, [1931] 2 DLR 775, the court considered a "striking difference in prices" a factor in finding "no reasonable probability of confusion or deception." In *Veuve*, *supra* note 15, the Supreme Court wrote that "[l]uxury champagne and mid-priced women's wear are as different as chalk and cheese" (at para 31). While the price difference was not identified as a stand-alone factor, the court's repeated comparison of high-end champagne and mid-priced women's goods permeates much of the analysis. See also *Eli Lilly and Co v Novopharm Ltd* (1997), 73 CPR (3d) 371 at paras 151-152, 1997 CanLII 5008 (FCTD), aff'd [2001] 2 FCR 502, 10 CPR (4th) 10 (CA).

⁵⁷ *Reynolds Presto Products Inc v PRS Mediterranean Ltd*, 2013 FCA 119 at para 27, citing *Pink Panther Beauty Corp v United Artists Corp*, [1998] 3 FCR 534 at para 26 (CA) [*Pink Panther*]; and *Precision Door & Gate Service Ltd v Precision Holdings of Brevard, Inc*, 2012 FC 496 at para 34.

CAD file itself as the good for the purposes of the confusion analysis.⁵⁸ To return to the shoe example, the trademark owner is not asking the court to compare a shoe with a shoe, but to compare a shoe with a CAD file containing the design for a shoe. It is one thing to argue that a 3D-printed pair of shoes bearing a brand name is likely to cause confusion with the shoes it is meant to emulate. It is quite another to say that a CAD file—containing information that, when acted upon by a computer and 3D printer, creates an object bearing a brand name—is likely to cause confusion with a pair of shoes.

This is a frustrating point for trademark owners because digital information (such as CAD files) and physical objects (such as shoes) are so different that the likelihood of confusion will often be near zero. At the same time, with a few clicks, that CAD file can be used to produce an article that, if *it* were the object of comparison, could sway section 6(5)(c) decisively in the trademark owner’s favour.

In most cases, rights holders will likely aim their legal guns at the uploader and the CAD file, not the downloaders and the printed object. Presuming that the uploader merely offers the CAD file for download and does not itself print and send the object, the trademark owner is forced into an unfavourable comparison between its goods and a CAD file that enables a person to print a colourable imitation.

3.3.2.2 The Nature of the Trade

The nature of the trade factor examines the method by which and the venue in which the compared items are sold.⁵⁹ To continue with the shoes example, if the trademark owner only ever sells “finished product” shoes in brick-and-mortar stores or online, the fact that the defendant offers its shoes as a downloadable CAD file may be a significant enough difference to obviate any likely consumer confusion, even if the CAD file is not offered for free. If, however, the trademark owner sells its product in CAD file format, this factor may militate in favour of finding confusion. This would be especially true if selling the product in CAD file format was itself a distinctive element of the trademark owner’s business.⁶⁰

While the nature of the trade under section 6(5)(d) is but one of several factors, the court need not always accord equal weight to each factor.⁶¹ At least one case

⁵⁸ One way of mitigating this weakness would be to register trademarks in association with CAD files. See Section 4.2, below.

⁵⁹ *Joseph E Seagram & Sons Ltd v Seagram Real Estate Ltd* (1990), 33 CPR (3d) 454, [1990] FCJ No 909 (QL) (TD); and *Pink Panther*, *supra* note 57 at para 30.

⁶⁰ That is to say, if the trademark owner is known for selling its products by way of CAD file download. Presumably this factor will become less relevant as the prevalence of this business model increases.

⁶¹ *Altacor Inc v Nutravite Pharmaceuticals Inc*, 2003 FCT 718 at para 20 [*Altacor FC*]; *Polysar Ltd v Gesco Distributing Ltd* (1985), 6 CPR (3d) 289 at 298, [1985] FCJ No 948 (QL) (TD); *Leaf Confections Ltd v Maple Leaf Gardens Ltd* (1988), 19 CPR (3d) 331, [1988] FCJ No 176 (QL) (CA); and *Pink Panther*, *supra* note 57.

was decided almost entirely on the nature of the trade. In *Alticor Inc v Nutravite Pharmaceuticals Inc*, the Federal Court found that while the products and trademarks at issue were very similar, since one of the products was exclusively sold through a multi-level marketing (pyramid) scheme, there was no likelihood of consumer confusion.⁶²

Three-dimensional-printed objects provide another scenario in which section 6(5)(d) may be dispositive. Offering a downloadable file for a shoe to be printed in one's home is drastically different from traditional retail. Consequently, the likelihood that a consumer would be confused by an allegedly infringing CAD file decreases when the plaintiff does not offer its products by way of CAD file download.

Even if the trademark owner did offer goods through CAD file download, the fact that the allegedly infringing article is hosted on a third-party CAD file repository site may prove sufficient to avoid confusion. Trademark owners generally sell goods online through their own digital storefronts (or through a third-party site clearly licensed to sell the goods), which is a distinct channel of trade from the selling of articles on community-based websites such as Shapeways.com.⁶³ This is not to say that trademark owners cannot collaborate with CAD file repository sites or 3D-printing service providers.⁶⁴ One would nevertheless reasonably assume that, if and when they do collaborate, the trademark owner's official involvement or approval will likely be self-evident.⁶⁵

When analyzing the nature of the trade, the court might consider the segment of the public that would or could ever come into contact with the parties' respective offerings. In *Pink Panther Beauty Corp v United Artists Corp*, the Federal Court of Appeal found that the trading environment is relevant to the confusion analysis.⁶⁶ One of the parties in that case was a wholesaler while the other was a retailer. Justice Linden wrote that "[a] professional consumer purchasing at the wholesale level is less likely to be confused than a casual shopper in a retail setting."⁶⁷

⁶² *Alticor FC*, *supra* note 61.

⁶³ Shapeways.com is a website where designers can display 3D-printed objects for purchase. Rather than providing a CAD file, Shapeways manufactures and sends the object.

⁶⁴ See Section 4.4, below, regarding the collaboration between Hasbro and Shapeways on Hasbro's My Little Pony product line. Again, Shapeways is not a CAD file repository site, but a marketplace for 3D-printed objects.

⁶⁵ The Hasbro/Shapeways collaboration is a good example of this. The page on the Shapeways website dedicated to custom My Little Pony figurines makes clear the association between Shapeways and Hasbro. (Either that, or it constitutes one of the most brazen and public instances of trademark infringement ever perpetrated online.)

⁶⁶ *Pink Panther*, *supra* note 57.

⁶⁷ *Ibid* at para 31. Justice Linden cited *Canada Wire & Cable Ltd v Heatex Howden Inc* (1986), 13 CPR (3d) 183, [1986] FCJ No 671 (QL) (TD), in which Jerome ACJ held that confusion was less likely since those who used both parties' goods were "industrial users" to whom a greater degree of knowledge, or consumer awareness, may be imputed.

Applied to the present context, the only potential overlap in the plaintiff's and the defendant's consumer bases are those consumers of the plaintiff's goods who have access to a 3D printer, or who are at least aware of 3D printing and CAD file repository sites. Those without occasion to view the defendant's allegedly infringing CAD file would accordingly make a poor comparator for assessing confusion.

As of this writing, consumer-level 3D printing remains largely limited to hobbyists and early adopters, though the user base is growing.⁶⁸ One can reasonably assume that these individuals possess some specialized knowledge about 3D printing and CAD files, at least insofar as they have the technical expertise to use the technology and know how and where to find CAD files. Even assuming that the CAD file hosted on the repository site directly references a trademark, is there any likelihood that the average user of the repository website would be confused into thinking that he or she is printing a genuine article?

For example, imagine that a user navigates to a page on a CAD file repository site that says "Nike Air Jordan Basketball Shoes." At first glance, this appears to be a blatant infringement. However, it is likely that only the 3D-printing initiated would ever visit that page in the first place. These individuals are presumably familiar with CAD file repository sites, and presumably navigated to the site specifically to browse items uploaded by individuals who, like them, are part of the 3D-printing community. In other words, those who are 3D-printing-initiated know exactly what they are getting when browsing a CAD file repository site. Realistically, the odds that one of these individuals might think they are about to download a CAD file that enables them to print a genuine branded article are virtually zero.⁶⁹

3.4 Extra-Contractual Liability Under the Civil Code of Québec: A More Favourable Alternative for Trademark Owners?

While the discussion so far has focused exclusively on causes of action under the *Trade-marks Act* and passing off at common law, an appraisal of the Canadian situation would be incomplete without considering the civil law perspective. It appears that trademark owners in the 3D-printing context may have an easier time making their case in extra-contractual liability under the *Civil Code of Québec*⁷⁰ than at common law or under the Act.

In civil law jurisdictions generally, and in Quebec in particular, the notion of liability is somewhat different from that at common law. There are two overarching

⁶⁸ "Gartner Reveals Top Predictions," *supra* note 1; and "3D Printing Market to Grow to US\$16.2 Billion in 2018," Press Release, *www.canalys.com* (31 March 2014), online: <https://www.canalys.com/static/press_release/2014/canalys-press-release-310314-3d-printing-market-grow-us162-billion-2018_0.pdf>.

⁶⁹ Much in the same way that, in the early days of file sharing, individuals who navigated to a torrent linker site such as Pirate Bay were well aware of the fact that they were not about to download an official release of the film or music they were searching for.

⁷⁰ *Civil Code of Québec*, CQLR c CCQ-1991 [CcQ].

categories of liability: contractual liability and extra-contractual liability.⁷¹ The latter encompasses what at common law is governed by intentional torts and negligence combined. The basic components for a claim in extra-contractual liability are: a “fault”; harm; and a causal link connecting them.⁷² Unlike under common law, the basic analysis under civil law is the same for negligent and intentional faults.

Article 1457 CcQ, the general provision on extra-contractual liability, reads as follows:

Every person has a duty to abide by the rules of conduct incumbent on him, according to the circumstances, usage or law, so as not to cause injury to another.

Where he is endowed with reason and fails in this duty, he is liable for any injury he causes to another by such fault and is bound to make reparation for the injury, whether it be bodily, moral or material in nature.

He is also bound, in certain cases, to make reparation for injury caused to another by the act or fault of another person or by the act of things in his custody.

In contrast with tort law, which prescribes a distinct analysis for each cause of action, extra-contractual liability offers a more flexible approach based on whether the defendant’s acts or omissions depart from “the rules of conduct incumbent upon him,” and whether that conduct caused the plaintiff an injury.⁷³ Unfair competition is subsumed under article 1457 CcQ and is therefore potentially broader in application than passing off or tortious interference, though it encompasses both.⁷⁴

Indeed, there is some authority for the proposition that the civil law equivalent to passing off is in fact broader than its common law counterpart, at least with respect to the perspective from which confusion is assessed. In a decision rendered in 1920, Justice Pelletier wrote:

[TRANSLATION] [What is at issue is] the means of enforcing the principle that while a person may sell his own goods as he wishes, he is not entitled to offer them for sale in such a way as to lead *buyers and the public in general* to think that the goods he is selling are those legitimately manufactured and sold by someone else.⁷⁵

If article 1457 CcQ allows the court to assess confusion from the perspective of the “public in general” rather than that of the average Canadian consumer (or, as

⁷¹ Article 1458 CcQ is the general provision on contractual liability, and article 1457 CcQ is the general provision on extra-contractual liability. See Jean-Louis Beaudouin & Patrice Deslauriers, *La responsabilité civile*, 7th ed (Cowansville, Que: Yvon Blais, 2007).

⁷² *Ibid* at 707.

⁷³ *Ibid* at 12. See also Alan Linden, *La responsabilité civile délictuelle*, 4th ed (Cowansville, Que: Yvon Blais, 1988).

⁷⁴ In relation to passing off specifically, see Alexandra Steele, *Développements récents en droit de la propriété intellectuelle*, *Barreau du Québec*, vol 197 (Cowansville, Que: Yvon Blais, 2003) at 120.

⁷⁵ *République française v S Hyman Ltd* (1920), 31 Que KB 22 at 23 (emphasis added).

argued above, the average Canadian 3D-printer user), a trademark owner may have an easier time making its case. While this is an old decision, the Supreme Court of Canada cited it with approval in *Ciba*.⁷⁶

An exhaustive look at 3D printing's trademark-related implications from a civil law perspective is beyond the scope of this article, but it is worth noting that a trademark owner may (provided that he or she has standing in Quebec courts) enjoy a greater chance of success under article 1457 CcQ than under the *Trade-marks Act* or at common law.

3.5 Who Is Liable?

Recall the scenario being used to analyze issues of trademark infringement in the 3D-printing context: (1) an individual uploads a CAD file; (2) the file is hosted on a CAD file repository site; and (3) the CAD file is downloaded by several users. There are three actors the trademark owner may wish to sue: the uploader, the repository site, and the downloader(s). Each actor's liability is examined in turn.

3.5.1 Uploader Liability

Provided that the CAD file uploader does not sell access to the CAD file, the trademark embodied in the file is not "used" within the meaning of section 4 of the *Trade-marks Act* because the uploader is not engaging in trade.

If the uploader sells the CAD file, he or she may be liable, depending on whether the trademark is "marked" on the CAD file. If the web page where the CAD file is hosted, or if the CAD file name itself, references the trademark, the trademark is arguably marked on or associated with the CAD file within the meaning of section 4. If the trademark is not so referenced, there is likely no use, and thus no infringement, subject to the alternative constructions of sections 20 and 22 offered above.

The uploader's liability under section 19 depends on whether the allegedly infringing object bears the trademark exactly and whether the plaintiff's trademark registration covers CAD files for making the impugned object (for example, a shoe).

Finally, the plaintiff would have to prevail under the section 6(5) confusion analysis to demonstrate infringement under section 20. As noted in Section 3.3.2, above, this might be easier said than done if the plaintiff does not distribute its market offering by way of a CAD file download.

3.5.2 Website Repository Liability

In this scenario, provided that the uploader is not infringing, it appears at first glance that the repository website would also be immune from liability. Even if the

⁷⁶ *Ciba*, *supra* note 23 at para 63.

uploader is infringing, the *Trade-marks Act*, unlike the *Copyright Act*, contains no statutory basis for secondary liability.⁷⁷

There are, however, at least two theories under which the repository website could be liable. First, regardless of whether the uploader infringes, if the website displays the plaintiff's trademark, it may be liable for direct infringement.⁷⁸ Second, if the uploader is infringing, a plaintiff may be able to impute liability to the website under the tort of negligence.

3.5.2.1 Direct Infringement Based on Use as a Service

Consider the following scenario: (1) the repository website markets itself as a place to download CAD files for knock-off brand-name goods (the CAD files are uploaded by members of the site's user community); and (2) the website displays the trademarks associated with the goods emulated on the site. Would the repository website then become liable for trademark infringement? In this scenario, the individual uploader would still presumably enjoy immunity, provided that he or she does not earn compensation for uploading the file. Does that prevent the website from being liable on its own?

Unlike section 4(1), which requires use in relation to goods to be in the normal course of trade, section 4(2), which defines use in relation to services, does not: "A trade-mark is deemed to be used in association with services if it is used or displayed in the performance or advertising of those services." Storing, indexing, and offering CAD files for download would qualify as a service; the section 4(2) definition could therefore apply.

It might seem intuitive to read the "normal course of trade" requirement into section 4(2). After all, services generally cost money. However, in *Sim & McBurney v Gesco Industries, Inc*, the Federal Court of Appeal refused to do so.⁷⁹ When referencing the normal course of trade requirement found in section 4(1), Justice Rothstein wrote, "Parliament did not impose such restrictions or conditions on when a

⁷⁷ Section 27(2) of the *Copyright Act* directly defines and proscribes secondary infringement of copyright. See James L Bikoff, Keri AF Johnston, David K Heasley, Phillip V Marano & Andrea Long, "Hauling in the Middleman: Contributory Trade Mark Infringement in North America" (2010) 5 J Intell Prop L & Prac 332.

⁷⁸ Note that because there is no recognized doctrine of secondary liability or vicarious liability in trademark law, all infringements are, strictly speaking, direct infringements. This term is used here only to show that, in the second scenario, the website's liability, while an independent infringement or tort, is contingent on there being an independent trademark infringement; the second scenario does not depend on whether the uploader infringes.

⁷⁹ *Sim & McBurney v Gesco Industries, Inc* (2000), 9 CPR (4th) 480 at para 9, 2000 CanLII 16369 (FCA) [*Gesco*]. See also *RH Lea and Associates Ltd (Re)*, [2008] TMOB No 200 (QL), 2008 CarswellNat 4513; *War Amputations of Canada v Faber-Castell Canada Inc* (1992), 41 CPR (3d) 557, [1992] TMOB No 6 (QL); and *War Amputations of Canada v Fortco Ltd*, 2000 CanLII 28627 at para 6 (TMOB).

trade-mark is to be deemed to be used in association with services.”⁸⁰ Consequently, the fact that the CAD file is freely downloadable does not prevent a court from finding the repository website liable, so long as the trademark is displayed on the website as it performs its service.

This meshes with other cases addressing websites’ liability for trademark infringement. In *Pro-C Ltd v Computer City Inc*, the Ontario Court of Appeal distinguished between “active” and “passive” websites.⁸¹ An active website is one where a user may interact with the site’s content. In the case of an online storefront, the site is active if a user can actually make purchases on the site. The site is passive if it acts as a catalogue, merely listing products, prices, and specifications. The court in *Pro-C* found that the respondent was not using the trademark within the meaning of section 4 because its website was passive.

We may conclude, *a contrario*, that using a trademark on an active website does (or at least could) constitute use of a trademark within the meaning of section 4(2). Since CAD file repository sites allow users to download and upload files, they are active sites, and may therefore in principle render their operators liable for trademark infringement.

Providing further assistance is *HomeAway.com, Inc v Hrdlicka*, in which the Federal Court clarified what constitutes trademark use relating to services in the online environment.⁸² The applicant American corporation operated a vacation property rental service through the website www.VRBO.com. The respondent registered the trademark “VRBO” in Canada with the intention of selling that registration to the applicant. The applicant applied to expunge the trademark under section 57 of the Act. The case turned on whether the applicant had used its trademark in Canada prior to the respondent’s application.

Justice Hughes found that it had. The fact that the trademark was displayed on Canadians’ computer screens when they accessed the site amounted to use within the meaning of section 4(2) of the Act. The record in *Hrdlicka* demonstrated that the service was marketed to Canadians and that Canadian users accessed the site. The finding in this case is consistent with other decisions that have addressed use of a trademark via display on a website, though the Federal Court in *Unicast SA v South Asian Broadcasting Corp* tempered this rule by noting that, in addition to the trademark’s display on the website, the services must be available for performance in Canada.⁸³

On the basis of these cases, it appears that the repository website may be liable for trademark infringement in our scenario. The website offers a service—CAD file

⁸⁰ *Gesco*, *supra* note 79.

⁸¹ *Pro-C*, *supra* note 16.

⁸² *Hrdlicka*, *supra* note 27.

⁸³ *Unicast SA*, *supra* note 27 at para 46. See also: *FileNET Corp v Canada (Registrar of Trade-marks)*, 2001 FCT 865 at para 65; and *Sim & McBurney*, *supra* note 27 at para 26.

downloads—and in doing so it displays the trademark. While the facts in *Hrdlicka* are different from the proposed scenario, the same principle applies—displaying a trademark on a website is sufficient to constitute use in relation to a service.

3.5.2.2 Secondary Liability Through Negligence

While Canadian trademark law does not expressly provide for secondary liability, some have suggested that one might impute secondary liability for trademark infringement to an intermediary through a claim in negligence.⁸⁴

To successfully claim negligence against a CAD file repository website in the event that primary infringement is found, a plaintiff must meet the following test:

1. a reasonable person would conclude that the repository site owed the trademark owner a duty of care;
2. the repository site breached its standard of care in failing to undertake necessary measures to prevent or discontinue the infringing activity;
3. there is a causal link between the repository site's inaction and the trademark owner's damage;
4. the repository site's inaction was a "proximate cause" of the trademark owner's damage; and
5. there are provable damages.

Whether a repository site would in fact owe a trademark owner a duty of care remains unclear. As of this writing, no reported cases in Canada have applied a negligence analysis to impute secondary liability in the trademark context, though at least one decision may open the door to such a claim.

In *Louis Vuitton Malletier SA v Yang*, the plaintiff obtained default judgment for copyright and trademark infringement against a company selling knock-off Louis Vuitton products and the landlord who rented the commercial space to the company.⁸⁵ The defendant landlord later attempted to set aside the default judgments on the basis that she was not served the statement of claim and that she had no knowledge of or interest in the business.⁸⁶ The record demonstrated otherwise. The court found that the landlord, Ms. Lin, whose testimony was considered less than credible, was not only aware of the operation but also shared in the profits.

⁸⁴ Bikoff et al, *supra* note 77.

⁸⁵ *Louis Vuitton Malletier SA v Yang*, 2007 FC 1179 [*Louis Vuitton*]. See, more recently, *Chanel S de RL v Lam Chan Kee Company Ltd.*, 2016 FC 987, aff'd 2017 FCA 38. Note the following distinction: the relevant defendant in that case was not only the landlord/owner of the premises where the knock-off goods were sold. The court also found that she was the controlling mind of the defendant corporations.

⁸⁶ *Louis Vuitton Malletier SA v Lin*, 2008 FC 45.

Although the court did not undertake a negligence analysis, the landlord and the business that committed the infringements were distinct entities at law. The landlord's liability was based on her knowledge of the illicit operation and the fact that she derived a benefit from it. Under the negligence framework, proving that the landlord (or the CAD file repository site) profited directly would be unnecessary. It would suffice to prove that the repository site knew or should have known about the illicit operation and failed to stop it. Once again, this cause of action would require the trademark owner to first establish the uploader's liability for trademark infringement.

As a final point, note that this analysis can apply not only to CAD file repository sites, but also to intermediary e-commerce websites, such as Shapeways.com. On that site, designers can post designs and have Shapeways print and ship them. Shapeways acts as both an outsourcing service for prototyping and an online marketplace where designers can sell, manufacture, and ship their designs. This business model would also presumably attract secondary liability through negligence if the user-designer's liability is demonstrated.

3.5.3 Downloader Liability

The end user does not infringe the trademark by printing the file if he or she does not then sell the printed object. Once again, this is because the trademark is not "used" within the meaning of section 4. The downloader likewise does not infringe if he or she freely shares the CAD file with others.

3.5.4 Liability Conclusion and Consequences

It appears that there are scenarios in which trademark owners would find themselves hard pressed to enforce trademark rights against uploaders, website repositories, and downloaders. As noted above, the problem goes beyond simple enforcement issues.

Recall that the very purpose of a trademark is to distinguish goods or services with which a mark is associated from those of market competitors. If one can no longer ascertain with reasonable certainty that trademark-bearing shoes were in fact manufactured and sold by the trademark owner, that trademark is no longer performing its distinguishing function. As a result, it becomes potentially liable for expungement in accordance with sections 18 and 57 of the *Trade-marks Act*.

While not a threat today, 3D printing could one day cause otherwise strong trademarks to lose their protection, provided, of course, that the technology gains broad consumer acceptance. Preventing this might entail significant legislative amendment (discussed further in Section 4.0, below).

3.6 Conclusion on Trademark Issues

In light of the foregoing analysis, it seems that in our scenario, provided that no money changes hands and the trademark is not displayed on the website or in the

CAD file name, none of the actors (uploader, CAD file repository website, or downloader) should be liable for trademark infringement, passing off, or depreciation of goodwill.

Under the current legal framework, the fact that the actors do not “use” the trademark within the meaning of section 4 of the Act precludes reliance on sections 19, 20, and 22. Since passing off also requires an element of trade, sections 7(b) to (d) and the tort of passing off provide no assistance to trademark owners.

The language used in the Act’s enforcement provisions could bear an interpretation that section 4 use is not required. However, this is highly unlikely given the current case law on point. It also appears unsupported from a purposive perspective.

We identified three hurdles to trademark enforcement caused by the confusion analysis in the 3D-printing context. The likelihood of a CAD file downloader mistaking a CAD file downloaded from a repository website for a genuine article is low, for the following reasons:

1. the unlikelihood that a brand owner would sell an item for a significant sum and at the same time allow users to print the item for free at home;
2. the unfavourable comparison (from a trademark owner’s perspective) between a manufactured good and a CAD file enabling that good’s manufacture; and
3. the fact that:
 - a. distribution by way of CAD file is not yet a common channel of trade, which makes it less likely the average Canadian consumer would consider the CAD file an authentic offering; and
 - b. the only consumers likely to encounter freely downloadable CAD files—3D-printer users—would never realistically be confused into thinking that they were procuring an authentic offering.

Trademark owners with standing in Quebec might get around the limited “average Canadian consumer” perspective for assessing confusion via article 1457 CcQ. If we eliminate the average 3D-printer user’s savviness, a plaintiff might in some cases establish a likelihood that an uninitiated member of the public would be confused, even if the average Canadian consumer of the goods in question would not be.

None of the actors in our scenario would likely be liable, provided that the CAD file is freely uploaded, hosted, and downloaded. This result changes if we assume that the uploader is charging for the CAD file, and if the trademark appears in the CAD file name or on the download page. If so, one could say the uploader uses the trademark within the meaning of section 4 of the Act. The uploader would then become open to potential liability for infringement, passing off, or depreciation of goodwill.

The repository website should escape liability if it does not display the trademark on any of its web pages and if the uploader is not found to be infringing. If,

however, the website markets itself as a knock-off service or allows users to associate trademarks with items on the website, it may be infringing. A court could also conceivably find the website vicariously liable in negligence if the uploader is found to infringe and the plaintiff can establish a duty of care.

Finally, unless the downloader makes a business out of printing objects and selling them, there is likely no basis for finding him or her liable. Selling a token number of objects may not rise to the level of infringement unless the sales can truly be considered commercial in nature.

4.0 POTENTIAL SOLUTIONS

Having explored some potential trademark-related issues that 3D-printing technology could raise, the article now offers potential solutions (or partial solutions) to those issues. The author neither endorses nor rejects these solutions, but merely offers them for broader consideration and discussion.

4.1 Amending the Act to Remove the Section 4 Use Requirement for Trademark Infringement and Depreciation of Goodwill

Parliament could deal decisively with the “use issue” by amending the Act to expressly remove the use requirement from sections 19, 20, and 22. It could achieve this either by modifying the wording in those sections or by modifying section 4 to add language exempting those provisions from its scope.

Given the current case law requiring use for a finding of infringement or depreciation of goodwill, and the fact that a purposive analysis favours maintaining the use requirement, policy-makers and interested parties cannot reliably expect the courts to make this change. Since this course of action might hinder trademark law’s two overriding purposes, consumer protection and the prevention of commercial misappropriation, Parliament should avoid legislating a solution in search of a problem. While pre-emptive regulation is advisable in some cases (especially in the face of a new and disruptive technology), this does not appear to be one of them. Instead, this action should be taken only if the described behaviour becomes prevalent.

With regard to section 22 in particular, removing the use requirement altogether might be an overreaction. After all, Justice Thurlow’s reservations about limiting speech and normal business activities remain valid. Precision would therefore best be served if Parliament amended section 22 to add language relating to distribution. For example: “No person shall use *or distribute goods containing* a trade-mark registered by another person in a manner that is likely to have the effect of depreciating the value of the goodwill attaching thereto.”

This approach maintains the overall structure of section 22. It does so without removing reference to section 4; it simply adds an additional qualification. If so worded, the modification would also only affect use in relation to goods. This is

beneficial in that the amendment would have no effect on the depreciation of goodwill in trademarks registered in relation to services, preserving any case law on that point. The case law dealing with goods would also remain valid, but allow for expansion. Finally, inserting the term “distribute” would create continuity with section 20, which lists selling, distributing, and advertising goods or services in association with a confusing trademark as acts of infringement.

4.2 Implementing a “Notice-and-Takedown” or “Notice-and-Notice” Regime

Lawmakers have developed certain legislative mechanisms in the copyright environment that, if imported into trademark law, might come to the aid of trademark owners. These are the “notice-and-takedown” and “notice-and-notice” regimes. Both of these, the first implemented in the United States and the second in Canada, were employed to combat online copyright infringement enabled by the disruptive cocktail of residential high-speed Internet access and file-sharing websites and software.

These regimes have at least two benefits: cost efficiency, and a “safe harbour” for Internet intermediaries, which limits their exposure provided that they follow the applicable legislated steps. Cost efficiency is served by reducing litigation. A safe harbour allows intermediaries to develop and deploy new and innovative services without fear of costly litigation, as long as they play by the rules.

4.2.1 A Notice-and-Takedown Regime

The United States amended its copyright law in 1998 to modernize the legal framework to meet challenges posed by the Internet.⁸⁷ Among the amendments implemented by the *Digital Millennium Copyright Act* (DMCA) was new § 512, which created a set of liability exemptions for Internet service providers (ISPs). One of these exemptions is for infringement resulting from “information residing on systems or networks at direction of users.”⁸⁸ Under that provision, a service provider is not liable if the following criteria are met:

1. Either:
 - a. the service provider does not have actual knowledge that the material or an activity using the material on the system or network is infringing;
 - b. in the absence of such actual knowledge, the service provider is not aware of facts or circumstances from which infringing activity is apparent; or
 - c. upon obtaining such knowledge or awareness, the service provider acts expeditiously to remove, or disable access to, the material;

⁸⁷ *Digital Millennium Copyright Act*, Pub L No 105-304, 112 Stat 2860 (28 October 1998), codified at 17 USC §§ 512, 1201-1205, 1301-1322; 28 USC § 4001 [DMCA].

⁸⁸ DMCA, § 512(c).

2. the service provider does not receive a financial benefit directly attributable to the infringing activity, in a case in which the service provider has the right and ability to control such activity; and
3. upon notification of claimed infringement, the service provider responds expeditiously to remove, or disable access to, the material that is claimed to be infringing or to be the subject of infringing activity.

Colloquially known as “notice-and-takedown,” the regime enables copyright owners to police unauthorized reproductions hosted on third-party websites, such as YouTube for audiovisual works and Instagram for images. The service provider must have a designated agent charged with receiving and addressing copyright claims.⁸⁹ The DMCA also lists the information a copyright owner must include in the notice to render it effective. The required information includes: the work alleged to have been infringed; the allegedly infringing work; and a statement that the copyright owner has a good-faith belief that the impugned use of the copyright-protected work is not authorized by the owner, its agent, or the law.⁹⁰

To prevent copyright owners from abusing the notice-and-takedown regime, the DMCA includes two balancing features. First, it punishes misrepresentations.⁹¹ A copyright owner who misrepresents material as infringing (or an individual who knowingly claims falsely that the material does not infringe) may be liable for damages, including costs and attorney’s fees. Second, the alleged infringer may file a counter-notice.⁹² This forces the service provider to repost the content within a certain time unless the copyright holder signals that he or she has filed legal proceedings aimed at restraining the alleged infringer’s conduct.⁹³

A similar legal framework could work in the trademark context. A trademark owner who suspects that a repository site is hosting a CAD file for an object that infringes its trademark registration would send a notice identifying the impugned CAD file, the trademark(s) allegedly infringed, and any other pertinent information prescribed by law. If adopted, the notice-and-takedown regime should adopt safeguards similar to the DMCA’s counter-notice and misrepresentation provisions. A valid request should also require a copy of the requester’s trademark registration(s).⁹⁴

One shortcoming of such a regime in the trademark context is that it would most likely prove nightmarish to attempt to apply notice-and-takedown measures to common law trademark rights. First, under Canadian law, applying this provision (presumably as part of the *Trade-marks Act*) to common law trademarks might be

⁸⁹ DMCA, § 512(c)(2).

⁹⁰ DMCA, § 512(c)(3)(A).

⁹¹ DMCA, § 512(f).

⁹² DMCA, § 512(g).

⁹³ DMCA, § 512(g)(2)(C).

⁹⁴ This would at least establish a *prima facie* basis for the removal.

unconstitutional on the basis that it encroaches on a province's power over property and civil rights in the province under section 92(13) of the *Constitution Act, 1867*.⁹⁵ Second, and more practically, it would be unduly demanding to force service providers to verify whether the alleged common law trademark rights exist. In contrast, a link to a registered trademark's registration page in the Canadian Intellectual Property Office's Trade-mark Database would allow the service provider to confirm the existence of a registered trademark with minimal effort.

Since the service provider could see the registration and assess the claim, the regime could grant the service provider the right to reject plainly frivolous takedown requests. For example, a service provider should be entitled to reject the takedown request if the trademark registration is inactive, or if it can verify that the 3D-printable object contains no markings of any sort.⁹⁶ This mechanism might seem somewhat controversial because it effectively removes some (albeit a very small amount) of the court's adjudicative authority, placing it in the hands not of an administrative tribunal but of private entities (with private interests).

If such a mechanism were adopted, the grounds on which a service provider could unilaterally deny a takedown request should be clear and few. Under no circumstances should the service provider conduct a confusion analysis or assess the allegedly infringed trademark's distinctiveness. It might also be advisable to establish a streamlined judicial or quasi-judicial process through which trademark owners could have the service provider's decisions summarily reviewed.

While it would require tweaking to fit into the trademark context, a notice-and-takedown regime may represent an effective and balanced way for trademark owners to address obvious instances of infringement. A counter-notice system requiring the trademark owner to put its money where its mouth is would likely reduce the chilling effect on user-generated content. Likewise, since a misrepresentation in a counter-notice would expose the user to damages and costs associated with subsequent legal action, users should consider such a response with care.

4.2.2 A Notice-and-Notice Regime

The 2011 amendments to the Canadian *Copyright Act* heralded a "made in Canada" approach to curbing online copyright infringement.⁹⁷ Different in effect from the DMCA's notice-and-takedown provisions, the notice-and-notice regime was designed to protect users' privacy while offering rights holders an opportunity to flag alleged copyright infringements.

⁹⁵ *Constitution Act, 1867* (UK), 30 & 31 Vict, c 3, reprinted in RSC 1985, Appendix II, No 5.

⁹⁶ For example, imagine a CAD file for a golf ball that allegedly displays a trademark on its face. If a brand owner issued a takedown request to a repository website, which then confirmed that the CAD file actually prints a plain white golf ball with no markings, the site should be able to refuse the takedown request.

⁹⁷ Government of Canada, "Notice-and-Notice Regime," Press Release (17 June 2014), online: <<https://www.canada.ca/en/news/archive/2014/06/notice-notice-regime.html>> [GoC Press Release].

Under this system, a copyright owner who believes that his or her rights have been infringed may send a notice to the alleged infringer's ISP. The ISP must then forward the notice to its subscriber. The copyright owner never actually obtains the end user's personal information. While there has been controversy over the content of these notices and the potential for abuse,⁹⁸ the notice-and-notice regime strikes a balance (at least in theory) between users' privacy and copyright owners' interest in curbing unlawful copying.

The notice-and-notice framework, while not a silver bullet, may be useful to trademark owners in the 3D-printing context. The threat posed by CAD file repository websites and torrent search sites to trademark owners is similar to the threat posed by file-sharing sites to copyright owners. Like copyright owners, trademark owners want to preserve their rights, but may be disinclined to sue end users because of the related public relations and financial costs.

A notice-and-notice regime promotes an "educational" approach. On the assumption that at least some end users infringe unintentionally and would not engage in the impugned conduct knowing it to be illicit, the notice may curb infringement to a degree. Notice-and-notice is also significantly less invasive than notice-and-takedown. A user engaging in objectionable conduct need not undertake any action to repost the content since it was never removed in the first place.

If a trademark owner insists on pursuing the user, it may still do so by asking a court of competent jurisdiction to compel the ISP to release the user's contact information. The cost associated with pursuing such a claim would likely limit such proceedings to flagrant abuses and instances in which the user earns enough revenue to justify legal action. Apart from cases where the trademark owner pursues the end user out of principle, business considerations will generally preclude this course of action because the ISP safe harbour eliminates the deepest pockets. Indeed, in the copyright context, to date there has only been one reported case in which a copyright holder sought and successfully obtained ISP subscriber information in order to enforce its copyright.⁹⁹

If notice-and-notice is adopted in the trademark context, one important consideration that should not be overlooked is the content of the notices. A major criticism of the notice-and-notice regime in the copyright context was the way it was implemented. The provisions came into force by order in council.¹⁰⁰ However, neither the

⁹⁸ Michael Geist, "Canadian Government on Copyright Notice Flood: 'It's Not a Notice-and-Settlement Regime,'" *Michaelgeist.ca* (29 April 2015), online: <<http://www.michaelgeist.ca/2015/04/canadian-government-on-copyright-notice-flood-its-not-a-notice-and-settlement-regime>>; and Michael Geist, "The Copyright Notice Flood: What to Consider If You Receive a Copyright Infringement Notification," *Michaelgeist.ca* (13 April 2015), online: <<http://www.michaelgeist.ca/2015/04/the-copyright-notice-flood-what-to-consider-if-you-receive-a-copyright-infringement-notification>>.

⁹⁹ See *Voltage Picture LLC v John Doe*, 2014 FC 161.

¹⁰⁰ GoC Press Release, *supra* note 97.

Copyright Act nor its regulations prescribed the content of notices. As a result, copyright owners have engaged in dubious practices such as misstating or overstating the scope of their rights, thus causing users to pay settlements out of (sometimes unjustified) fear.¹⁰¹

Parliament could prevent this behaviour by prescribing the content of notices by regulation. To minimize abuse, it might even be advisable to set out the exact text the intermediary must send, denying trademark owners the opportunity to depart from the boilerplate language. The regulations could proclaim that any deviation would result in the ISP's justified refusal to forward the notice. While this may not eliminate all potential abuses, it would likely attenuate them.

4.3 Implementing a “Post-Sale Confusion” Doctrine

One way to strengthen trademark owners' rights despite the lack of confusion in the 3D-printing context would be to adopt a “post-sale confusion” doctrine in Canadian law. Doing so would require a substantial change in the way Canadian courts look at confusion—namely, from the perspective of the average Canadian consumer of the goods in question.

Post-sale confusion, which was developed in the United States, is a trademark doctrine that alters both the relevant viewpoint and material date from which confusion is assessed. To prove post-sale confusion, it is sufficient to show that any person, not only a purchaser or potential purchaser of the goods, would likely be confused when seeing the purchaser using the goods.¹⁰² The doctrine also changes the material date for assessing confusion, which under American law is usually the point of sale, to after the sale.¹⁰³

From an enforcement standpoint, shifting the perspective from the average Canadian consumer of the goods or services to the third-party observer would address the fact that there is near-zero likelihood that individuals downloading a CAD file would be confused into thinking that they are printing a genuine product. To return to the example of a 3D-printed shoe, an individual on the street who sees someone wearing a pair of 3D-printed Nike knock-off shoes may be confused into thinking that the shoes were genuine. Presuming that the printed shoes were of sufficient quality and detail, the onlooker cannot know that the wearer actually printed the shoes in his or her home.

¹⁰¹ Michael Geist, “Rightscorp and BMG Exploiting Copyright Notice-and-Notice System: Citing False Legal Information in Payment Demands,” *Michaelgeist.ca* (8 January 2015), online: <<http://www.michaelgeist.ca/2015/01/rightscorp-bmg-exploiting-copyright-notice-notice-system-citing-false-legal-information-payment-demands>>.

¹⁰² This seems to agree with the test for unfair competition under the CcQ, discussed above.

¹⁰³ Anne M McCarthy, “The Post-Sale Confusion Doctrine: Why the General Public Should Be Included in the Likelihood of Confusion Inquiry” (1999) 67:6 *Fordham L Rev* 3350.

Post-sale confusion originated in *Mastercrafters Clock & Radio Co v Vacheron & Constantin-Le Coultre Watches, Inc*, an unfair competition case in which the defendant marketed low-quality imitations of the plaintiff's Atmos clocks.¹⁰⁴ The court found for the plaintiff, saying that while the purchaser of the duplicate was aware the clock was not genuine, others seeing the clocks afterward would not know. The plaintiff's reputation would suffer in that members of the public would associate it with the defendant's inferior product.

The doctrine began appearing in trademark infringement cases after the US Congress amended the *Lanham Act*¹⁰⁵ in 1962. The amendments removed the words "purchaser" and "source of origin" from § 32, the infringement provision. Several courts interpreted this as having two consequences: (1) confusion may extend to any person, not just the purchaser or potential purchaser of the goods; and (2) the time for assessing confusion may be after the point of sale.¹⁰⁶ While the post-sale confusion doctrine has been applied by several courts, others refuse to read the 1962 amendments to the *Lanham Act* as endorsing the doctrine.¹⁰⁷

The only Canadian judgment to directly consider the post-sale confusion doctrine as of this writing is the Federal Court's decision in *Tommy Hilfiger Licensing Inc v International Clothiers Inc*.¹⁰⁸ That case dealt with a trademark infringement and passing-off claim under section 7(b) of the Act. The infringement claim failed because it was held that the defendant was not using the design as a trademark but merely as an ornament on the impugned clothing. The claim for passing off succeeded. The court nevertheless refused to import the American post-sale confusion doctrine into Canadian law.

Justice MacKay noted that the wording of section 7(b) makes specific reference to confusion being assessed at the point of sale.¹⁰⁹ Justice Mackay did not address the material date for infringement under sections 19 and 20.

¹⁰⁴ *Mastercrafters Clock & Radio Co v Vacheron & Constantin-Le Coultre Watches, Inc*, 221 F (2d) 464 (2d Cir 1955).

¹⁰⁵ *Lanham Act*, 15 USC § 1051 et seq.

¹⁰⁶ *Insty*Bit, Inc v Poly-Tech Indus, Inc*, 95 F (3d) 663 at 672 (8th Cir 1996); *Payless Shoesource, Inc v Reebok Int'l Ltd*, 998 F (2d) 985 at 991 (Fed Cir 1993); *United States v Hon*, 904 F (2d) 803 at 808 (2d Cir 1990); *United States v Torkington*, 812 F (2d) 1347 at 1350, 1352-53 (11th Cir 1987); *Marathon Mfg Co v Enerlite Prods Corp*, 767 F (2d) 214 at 221 (5th Cir 1985); *Dallas Cowboys Cheerleaders, Inc v Pussycat Cinema, Ltd*, 604 F (2d) 200 at 205 (2d Cir 1979); *Foxworthy v Custom Tees, Inc*, 879 F Supp 1200 at 1216 (ND Ga 1995); and *Nabisco Brands, Inc v Conusa Corp*, 722 F Supp 1287 at 1291 (MDNC 1989).

¹⁰⁷ *Dorr-Oliver, Inc v Fluid-Quip, Inc*, 94 F (3d) 376 at 382 (7th Cir 1996); *Nike, Inc v "Just Did It" Enters*, 6 F (3d) 1225 at 1229 (7th Cir 1993); *Astra Pharm Prods, Inc v Beckman Instruments, Inc*, 718 F (2d) 1201 at 1206 (1st Cir 1983); *Smithkline Beckman Corp v Pennex Prods Co*, 605 F Supp 746 at 751 (ED Pa 1985); *Greetings Corp v Easter Unlimited, Inc*, 579 F Supp 607 at 616 (SDNY 1983); and *Beneficial Corp v Beneficial Capital Corp*, 529 F Supp 445 at 450 (SDNY 1982).

¹⁰⁸ *Tommy Hilfiger Licensing Inc v International Clothiers Inc*, 2003 FC 1087.

¹⁰⁹ *Ibid* at para 53. Section 7(b) reads: "No person shall ... direct public attention to his goods, services or business in such a way as to cause or be likely to cause confusion in Canada, at the time he

In Canada, the material date for assessing confusion for infringement purposes is generally the hearing date (of the action for infringement).¹¹⁰ This rule is not written in stone; some decisions have employed other dates. For example, where there was a claim for damages after the termination of a trademark licence, the date the licence was terminated was deemed the material date.¹¹¹ In any event, the post-sale confusion doctrine does not offend this part of the confusion analysis under Canadian law. The more controversial aspect of importing the post-sale confusion doctrine into Canadian law is changing the relevant viewpoint for assessing confusion. In Canada, this has always been that of the average Canadian consumer of the goods in question.

From a conceptual perspective, the post-sale confusion doctrine appears to fit better under the rubric of depreciation of goodwill than trademark infringement. It is less that the person seeing the knock-off is confused into thinking that it is the genuine article, and more that the person creates a connection (linkage) between the trademark and the inferior product that harms the genuine product's reputation (damage).¹¹² This is somewhat awkward, though, given that it is unnecessary to prove confusion under the depreciation of goodwill analysis in section 22.

4.4 Embrace the Chaos

Perhaps the most effective way for individual brand owners to survive and thrive in the 3D-printing environment is to embrace this disruptive technology. If there is a lesson to be learned from the music industry's struggle with file sharing, it is that those who harnessed the technology's power, most notably Apple Inc. with its iTunes Store, reaped the rewards.

Even though 3D printing is still in the early stages of consumer acceptance, some brands have decided not to wait to implement it into their business and marketing models:

- In May 2015, Toyota announced a pilot project in which it will allow a group of individuals to 3D-print custom parts for a new concept car the company hopes to release called the "i-Road."¹¹³

commenced so to direct attention to them, between his goods, services or business and the goods, services or business of another" (emphasis added).

¹¹⁰ *Masterpiece*, *supra* note 47 at para 13; and *Altacor Inc v Nutravite Pharmaceuticals Inc*, 2005 FCA 269 at para 14.

¹¹¹ *1429539 Ontario Ltd v Café Mirage Inc*, 2011 FC 1290.

¹¹² See *Clairol*, *supra* note 16.

¹¹³ Eddie Krassenstein, "Toyota to Let People 3D Print Custom Parts for Vehicles in Japan with the Open Road Project," *3Dprint.com* (17 May 2015), online: <<https://3dprint.com/63477/toyota-3d-printed-vehicle/>>.

- Disney Corporation has unveiled a platform that allows users to design and 3D-print their own articulated mechanical toys. The platform requires no technical skill or expertise to operate.¹¹⁴
- Hasbro has teamed up with 3D-printing company Shapeways to create “Super Fan Art,” a service that offers consumers the opportunity to create custom figures and models based on its My Little Pony brand.¹¹⁵
- Italian pasta maker Barilla is developing dough cartridges so that individuals can print their own custom-designed pasta on their home 3D printers.¹¹⁶ 3D Systems has already released 3D printers capable of printing food.¹¹⁷
- Coca-Cola ran a marketing campaign in Israel where it invited people to create digital avatars that they then had to clothe and nurture. Those who took good care of their avatars were invited to the company’s headquarters, where they had the opportunity to be scanned and immortalized as miniature 3D-printed figurines.¹¹⁸
- Motorola sent a team around the United States with 3D-printing equipment and offered art and engineering students an opportunity to create their own Motorola-compatible accessories.¹¹⁹ This was done in anticipation of Motorola releasing a new smart phone, which it calls a “free, open hardware platform for creating highly modular smartphones.”¹²⁰
- Lego hosts a video on its website featuring a fan who built a 3D printer out of Lego and a Lego robotics set that is able to print, among other things, Lego pieces.¹²¹

¹¹⁴ Disney Corporation, “Disney Researchers Develop Software Tools to Create Physical Versions of Virtual Characters,” Press Release (19 July 2013), online: <<http://www.disneyresearch.com/wp-content/uploads/Disney-Research-Computational-Design-Deformable-and-Mechanical-Characters-FINAL.pdf>>.

¹¹⁵ “My Little Pony: Super Art by Super Fans,” *Shapeways.com*, online: <<https://www.shapeways.com/superfanart/mylittlepony>>.

¹¹⁶ Nadine Williams, “Food Brands Embrace 3D Printing,” *Stylus.com* (29 January 2014), online: <<http://www.stylus.com/sqkkqk>>.

¹¹⁷ Dong Ngo, “3D Systems Unveils ChefJet 3D Printers for Those with a Sweet Tooth,” *CNET.com* (7 January 2015), online: <<https://www.cnet.com/products/3d-systems-chefjet-3d-printer/>>.

¹¹⁸ Kyle Montero, “How Major Brands Use 3D Printing,” *iMediaConnection.com* (27 November 2013), online: <<http://www.imediaconnection.com/content/35446.asp>>.

¹¹⁹ *Ibid.*

¹²⁰ Motorola Advanced Technology and Projects Group, “Goodbye Sticky. Hello Ara,” *MotorolaBlog* (28 October 2013), online: <<http://blog.motorola.com/2013/10/29/goodbye-sticky-hello-ara/>>.

¹²¹ “LEGOMakerBot 3D Printer by Will,” *Lego.com* (6 February 2014), online: <<http://www.lego.com/en-us/mindstorms/videos/3d-printer-by-will-9f5e042fab574bbd9a557622b29613fb>>. Others have built their own Lego-making 3D printers out of Lego. See <<http://www.battlebricks.com/makerlegobot/>>.

Furthermore, embracing 3D-printing technology could plug at least one gap noted above with respect to enforcement under sections 19 and 20 of the Act. If trademark owners begin offering goods by way of CAD file download, they will be entitled to register trademarks extending to those CAD files. A trademark registered in association with CAD files addresses the “scope of registration” concern pertaining to enforcement under section 19¹²² and the confusion analysis concerns pertaining to enforcement under section 20.¹²³

Even though embracing 3D-printing technology does not directly address all of the identified issues, individual brand owners’ willingness to get creative in incorporating 3D printing into their business models will surely be rewarded. Regardless of whether legislative amendments are undertaken, companies would be well advised to consider the examples set by the brands listed above.

5.0 CONCLUSION

New technologies often pose new challenges to existing legal regimes. But every once in a while, a technology is developed that is so disruptive as to require us to change the way we think about a given area of law. The Internet changed the way we think about many areas, including IP, privacy, contracts, and torts. Three-dimensional printing may just be the next big paradigm-shifter.¹²⁴

Regardless of whether 3D printing turns the legal word on its head, it does appear to present certain challenges to Canadian trademark law, or could if and when the technology becomes ubiquitous. In a CAD file-sharing scenario, the use requirement would likely all but eliminate trademark owners’ ability to police their marks in this space. CAD file software makes it trivially easy to escape section 19’s application. Section 20 is also compromised by the awkward application of the confusion analysis in the 3D printing context. There is some support for the proposition that proceeding in Quebec under article 1457 CcQ rather than under the *Trade-marks Act* could alleviate at least one of the shortcomings of section 20 (and, for that matter, passing off): the requirement to consider confusion from the perspective of the average Canadian consumer of the goods in question. But the other issues with the confusion analysis would persist in that jurisdiction as well.

One can imagine ways in which each actor in a CAD file-sharing scenario might become liable. It may nonetheless become a simple matter for each to escape liability. Provided that nobody profits and so long as the CAD file repository site is not a glorified “trademark infringement service,” none of the actors in the scenario is likely to attract liability under the Act.

¹²² See Section 3.2.2, above.

¹²³ See Section 3.3.2, above.

¹²⁴ In addition to affecting intellectual property, 3D printing also affects areas such as public safety (for the ability to print guns that cannot be detected by metal detectors) and product liability.

Several potential solutions might eliminate or attenuate some of the identified issues. One proposed solution is to amend the Act so as to remove the section 4 use requirement from sections 19, 20, and 22. Though a somewhat extreme response, it would deal decisively with the use issues identified above. A notice-and-takedown or a notice-and-notice regime also represents a potentially viable option. If sensible regulations are passed to limit abuse and to maximize utility, either regime may prove the most effective legislative means of addressing the issues. Implementing a post-sale confusion framework also might bear consideration. Doubtless the best course of action from an individual trademark owner's perspective is to find a way to use the technology to its advantage rather than devote resources to fighting it.

Do 3D printers signal the end of trademark law as we know it? Of course not. It is nonetheless fair to say that trademark owners may, for the first time, encounter a culture of mass, benevolent infringement similar to that faced by the music and film industries in the copyright context. Whether it forces trademark owners to innovate or litigate, 3D printing could cause a commotion one way or the other.