

WHEN A TRADE MARK USE IS NOT A TRADE MARK USE? A 3D PERSPECTIVE

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ABSTRACT

Through the introduction of affordable technology that enables hobbyists and enthusiasts to print 3D products in their own homes, 3D printing holds the potential for radically changing the paradigm of trade mark protection. Some have argued that using a Computer Aided Design (CAD) file, an individual with quite limited manufacturing skills could be able to print a remarkable collection of branded products. This is expected to facilitate and accelerate the production of counterfeit products by hobbyists and enthusiasts. This paper examines the extent to which the concept of ‘use in the course of trade’ can accommodate the specificities of 3D printing. It also brings to light some particular challenges for the law relating to trademarks when applied to CAD files. Since the success of any infringement claim is based on the use of the mark in the course of trade, the answer to these questions is essential.

Key Words: 3D printing, CAD file, trade mark use, course of trade

INTRODUCTION

Trade mark law confers on the proprietor of a registered trade mark exclusive rights to prevent all third parties not having his or her consent from using in the course of trade a mark that is similar or identical on similar or identical goods. Where the latter mark has a reputation, protection goes further to cover use relating to similar as well as dissimilar goods.³ Having the exclusive right to sell a particular branded product is a key to generating profit. Accordingly, enforcement and control are at the heart of trade mark protection. By defining the activities which constitute an infringement, trade mark law therefore determines the scope of protection afforded to a trade mark. In order not to prevent all types of use of a mark, Article 5 of Trade Marks Directive 2008/95 (TMD) provides a preliminary obstacle to establishing infringement, namely that a sign must be ‘used’ in the ‘course of trade’.

The precise interpretation of the ‘use in trade’ doctrine remains hotly contested.⁴ With 3D printing technology going mainstream, this debate is likely to get even hotter. In a few years, additive manufacturing technology will enable hobbyists and enthusiasts to use and sell 3D counterfeit products from the safety of their homes. With the help of a Computer Aided Design (CAD) file, 3D users are also able to change and refine the design and dimensions of a digital product before actually printing it.⁵ This is likely to disturb the longstanding balance between the costs and frequency of infringement. Enforcing an infringement claim costs money.⁶ Typically, trade mark owners target the party for which the return on investment

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³ Article 5(1) and (2) of Directive 2008/95 to approximate the laws of the Member States relating to trade marks [2008] L299/25; C-292/00 *Davidoff & Cie SA and Zino Davidoff SA v Gofkid* [2003] ECR I-389.

⁴ N.M. Dawson, ‘Non-trade mark use’ (2012) 4 *Intellectual Property Quarterly* 204; Alice Blythe, ‘Searching questions: issues surrounding trade mark use on the internet’ (2013) 35 *European Intellectual Property Review* 507.

⁵ Daniel H. Brean, ‘Asserting Patents to Combat Infringement via 3D Printing: It’s No ‘Use’ (2013) 23 *Fordham Intellectual Property, Media and Entertainment Law Journal* 773.

⁶ For instance, US technology giant Apple Inc has settled a dispute over the use of the iPad trade mark for US\$60 million; BBC, ‘Apple settles China iPad trademark dispute for \$60m’ (2 July 2012) <www.bbc.co.uk/news/business-18669394> accessed 6 February 2015. In another incident related to a copyright case, the invoice for the allegedly infringing claim was under £10,000 but the joint costs of the parties (ex-VAT) stood just short of a million pounds; *Anglia Autoflow Ltd v Wrightfield Ltd* [2008] EWPC 3, 4.

through enforcement will be the greatest. This ‘go after the big fish technique’ would normally deter infringement by others. By maximising return, brand owners therefore discourage others from infringing the mark without incurring excessive costs.

Within the parameters of 3D technologies, however, it would appear that the ‘cost versus benefit’ strategy is unlikely to work as intended. Already, 3D technology is becoming less expensive and there are indications that the sale of 3D personal printers has significantly increased.⁷ It is estimated that the 3D printing industry grew to US\$2.5 billion in 2013 and is expected to hit US\$3.8 billion in 2014-15, with an anticipated annual growth rate of 45.7 per cent per year up to 2018.⁸ According to Gartner (an information technology research group), by 2018, 3D printing could cost intellectual property (IP) US\$100 billion in lost sales.⁹

Drawing on UK and EU trade mark laws, this article revisits the concept of ‘use in the course of trade’ where 3D products are exploited, specifically by hobbyists and enthusiasts. After introducing the technology, we look broadly at the impact of 3D printing on the concept of trade mark use. Two issues merit discussion: a) the concept of ‘use’ under Article 5(1)(a)¹⁰ and Article 5(2) of the TMD; and b) the restrictive parameters engaged by the phrase ‘in the course of trade’. The paper will then highlight a few novel legal issues raised when investigating the use of a CAD file under the trade mark lens. The emphasis is on these aspects in particular because they pose significant challenges to the law.

3D Technology: Why It Matters

3D technology is not new.¹¹ What is new, however, is the significant drop in the price of this technology and thus the partial elimination of important trade barriers, namely, investment and production costs.¹² This new dynamic is said to challenge the trade mark system by facilitating cheap and quick production of goods even in a home setting. The real issue, therefore, is not whether 3D technology attracts trade mark law’s attention; rather, it is what amounts to a trade mark infringement or, more specifically, what amounts to ‘use in the course of trade’ in this context. Therefore, the extent to which 3D technology facilitates the production of fake goods must be considered.

Manufacturing Rather Than Printing: How Does 3D Technology Work?

A 3D printer creates 3D objects by depositing successive layers of materials. Once the first layer is created, the printer head moves vertically upward (or the base downward) and then starts printing a second layer at the top of the first and so forth. Finally, all the layers fuse together to create a 3D object.¹³ This process is controlled by CAD.¹⁴

In practice, not all products are printable. Electronic circuits, for instance, are very difficult to make due to the fact that their metal, ceramic and plastic parts must first be made separately and assembled later. Though the technology is still premature, using the technique

⁷ Phoebe Li and others, ‘Intellectual property and 3D printing: a case study on 3D chocolate printing’ (2014) 2 *Journal of Intellectual Property Law and Practice* 2.

⁸ Carolyn Tweedy, ‘3D Printing and the Future of Intellectual Property’ (ASA, 10 June 2014) Institute for Risk and Innovation < www.anniesearle.com/risknews.aspx?a=1498 > accessed 14 October 2014.

⁹ Gartner, ‘3D printing to result in \$100 billion IP losses per year’ (14 October 2013) < www.3ders.org > accessed 6 February 2015.

¹⁰ In many cases, confusion is not a big concern, particularly where goods are printed for personal consumption; see Lucas Osborn, ‘Regulating Three-Dimensional Printing: The Converging World Of Bits And Atoms’ (2014) 51 *San Diego Law Review* 583; Deven R. Desai and Gerard N. Magliocca, ‘Patents, Meet Napster: 3D Printing and the Digitization of Things’ (2014) 102 *The Georgetown Law Review* 1690, 1711.

¹¹ Patent application 05/165042 ‘method, medium and apparatus for producing three-dimensional figure product’; U.S. Patent No. 4,575,330 claiming invention of the stereolithography process (filed 8 August 1984).

¹² BBC, ‘HP looks to 3D printing market to boost performance’ (29 October 2014) < www.bbc.co.uk/news/technology-29817650 > accessed 6 February 2015.

¹³ H. Lipson and M. Kurman, *Fabricated: The New World of 3D Printing* (Wiley 2013) 65-73.

¹⁴ Desai and Magliocca (n 10) 1696.

of voxelization could resolve the problem (also referred to as 3D scan-conversion).¹⁵ For the products which can be printed, however, 3D technology offers limitless customisation options at low cost. The essential tool for the job is a CAD file, which enables precise physical replication with no loss in quality.¹⁶ As such, it is more accurate to categorise 3D printing as a manufacturing rather than a printing process.¹⁷ The key to any analysis then hinges on the CAD file, but what is it?

What Is a CAD File?

As mentioned above, a CAD file is an essential component of the 3D printing process. The file may be downloaded from a sharing website¹⁸ or created by an individual using a computer programme. An easy way to obtain a CAD file is to create it by scanning an existing object using a 3D scanner.¹⁹ Computer software then converts the scanned file into a CAD file. This, in turn, will be adapted into a format that the 3D printer will recognise.²⁰ At this stage, quality control is everything. By adding an optical scanner to the 3D printer, an intelligent ‘closed loop system’ allows the 3D printer to monitor the printing process and even add extra material, if needed.²¹ If this outlined 3D technology lives up to 3D enthusiasts’ expectations, it could be widely adopted by the public.

In order to investigate the implications of 3D printing for trade mark law, and since a trade mark infringement claim is based on ‘the use in the course of trade’ of a sign in relation to goods or services, the next section investigates the question of ‘use’.

THE USE OF A TRADE MARK IN RELATION TO A 3D PRINTED PRODUCT

In order to establish whether the use of a trade mark in relation to a 3D printed product is a ‘use’ that affects, or has the potential to affect, the functions of the trade mark, we now look at the treatment given by the Court of Justice to the concepts of ‘use’ under Article 5(1)(a) and 5(2) of the Trade Marks Directive 2008/95.

The Evolution of Trade Mark Use Doctrine

In considering whether a trade mark use falls foul of Article 5(1) of the TMD, the court will assess, among other questions, whether the ‘use’ of an identical mark in relation to identical goods adversely affects the functions of the mark. This ‘deception-based’ approach mainly protects the origin function in order to prevent confusion as to the source of goods.²² In the not-too-distant past the Court of Justice often took the view that, for there to be an infringement, the defendant must ‘use’ the claimant’s registered mark to identify the trade origin of the goods to which it is attached. The mark, in other words, must be used ‘in a trade mark sense’.²³

This interpretation (use in a trade mark sense) hinges on the average consumer’s perception of the meaning of the defendant’s use of the mark: would he view it as a badge of origin or for other purposes? In *BMW AG v Deenik*,²⁴ for example, the BMW trade mark was used by Deenik in the course of his business (unauthorised use), where he sold and repaired second-hand BMW vehicles. The Court of Justice ruled that Deenik’s use of the BMW sign

¹⁵ A voxel (the physical equivalent of a pixel) is the smallest distinguishable part of a 3D image; Lipson and Kurman (no 11) 16.

¹⁶ Dinusha Mendis, Davide Secchi and Phil Reeves, ‘A Legal and Empirical Study into the Intellectual Property Implications of 3D Printing’ (2015) The UK Intellectual Property Office 2.

¹⁷ Lipson and Kurman (n 13) 83.

¹⁸ See, for example, www.thingiverse.com/.

¹⁹ S. Buckley, ‘MakerBot’s Digitizer Will Go on Sale Next Week, Promises 3D Scanning to the Masses’ (14 August 2013) <www.engadget.com/2013/8/2014/makerbots-digitizer-will-go-on-sale-next-week> accessed 16 February 2015.

²⁰ Geomagic, ‘3D Scanner: A Guide to 3D Scanner Technology’ <www.rapidform.com/3d-scanners/> accessed 6 February 2015; Lipson and Kurman (n 13) 97.

²¹ Lipson and Kurman (n 13) 277-78.

²² Lionel Bently and Brad Sherman, *Intellectual Property Law* (4th edn, OUP 2014) 996.

²³ C-63/97 Bayerische Motorenwerke AG v Deenik [1999] ECR I-905.

²⁴ *ibid.*

constituted use of the BMW mark within the meaning of Article 5(1)(a) of the TMD. However, the Court of Justice went on to say that such use could not be prevented under Articles 5 to 7 of the TMD²⁵ unless the use created an impression of a commercial connection between the defendant and the mark owner.²⁶ As time passed, however, the Court of Justice's interpretation of the concept of 'use' has shifted.

Most scholars and courts credit *Arsenal v Reed*²⁷ with ushering in the so-called functions-oriented approach. The Court of Justice has stressed that the exclusive right under Article 5(1)(a) of the TMD must be reserved for cases in which 'a third party's use of the sign affects or is liable to affect the functions of a trade mark', *in particular* the origin one.²⁸ In this regard, the fact that consumers perceived the use of a trade mark as badge of support or loyalty (not a sign of origin) was irrelevant.²⁹ The Court of Justice ruled in this case that the use of the Arsenal trade mark on 'unofficial' goods sold by the defendant was 'such as to create the impression that there is a material link in the course of trade between the goods concerned and the trade mark proprietor'.³⁰ It was thus liable to jeopardise the essential function of the trade mark.³¹ This seems to indicate that the quality, advertising or communication functions of a trade mark could also be protected under Article 5(1)(a) of the TMD.

Later, in *Adam Opel AG v Autec*,³² the Court of Justice stressed that a trade mark owner can object only to a third party's use which harms one of the trade mark's functions. Acknowledging that the relevant public did not see the sign on Autec's cars as an indication that the products came from Adam Opel, the Court of Justice pointed out that the use of the Opel logo in this instance did not harm the essential function of the Opel mark and thus did not infringe Article 5(1)(a) of the TMD.³³

In light of the above, it is not clear whether the 'trade mark use' condition is still a requirement under Article 5(1)(a). It seems that the use of a sign as a trade mark is not essential so long as that use affects or is liable to affect one of the mark's functions.

Marks with a Reputation and 'Death by a Thousand Cuts'

Under Article 5(2) of the TMD, trade mark law also recognises the value of a trade mark which might be independent or separate from that of the goods for which it is registered.³⁴ A mark with a reputation enjoys additional protection beyond that available to other marks.³⁵ Still, Article 5(2) is not intended to prevent any use of a reputable mark. To fall foul of Article 5(2) it must be shown that the use of the junior mark is either detrimental to the distinctive character of the senior mark (blurring),³⁶ or the repute of the senior mark,³⁷ or takes unfair advantage of

²⁵ *Bayerische* (n 23) 64.

²⁶ *ibid* 38.

²⁷ Case C-206/01 *Arsenal Football Club Plc v Matthew Reed* [2003] European Trade Mark Report 19.

²⁸ *ibid* 51. The Court of Justice's approach to protect the trade mark communication or advertising functions under both Article 5(1) and (2) of the TMD has stirred a great deal of criticism. See Max Planck Institute for IP and Competition Law, *Study on the Overall Functioning of the European Trade Mark System* (2011), paras 2.184, 2. 179, 2. 208, 2. 229; Commission, 'Proposal for a Directive of the European Parliament and of the Council to Approximate the Laws of the Member States Relating to Trade Marks' COM (2013) 162 final, 6. However, not everyone thinks that protecting the advertising or communication functions under Article 5(1) is necessarily a bad idea. Posner calls for the protection of a mark's ability to act as an origin guarantee against blurring. Doing so is said to benefit consumers' 'internal' rather than 'external' search costs; *Ty, Inc v Perryman* 306 F. 3d 509 (7th Cir. 2002).

²⁹ *Arsenal* (n 27) 61.

³⁰ *ibid* 56.

³¹ *ibid* 60.

³² C-48/05 *Adam Opel AG v Autec AG* [2007] ECR I-1017, para 24.

³³ *ibid*.

³⁴ Case C-252/07 *Intel Corp Inc v CPM United Kingdom Ltd* [2009] European Trade Mark Report 13, para 63.

³⁵ Article 5(2) TMD.

³⁶ *Intel* (n 34) 29.

³⁷ Case C-408/01 *Adidas-Salomon AG v Fitnessworld Trading Ltd* [2004] F.S.R. 21, Opinion of AG Jacobs, para 38.

the distinctive character or repute of the earlier mark.³⁸ The use must also be without due cause. The use of a sign as a trade mark does not seem to be a requirement under Article 5(2).

When establishing detriment to the distinctive character of the earlier mark, the concern relates to unauthorised use of the mark on similar or dissimilar goods which may undermine the selling power of the senior mark. In *Intel v CPM*,³⁹ the Court of Justice concluded that reputation-based infringement requires that the use of the later mark causes the consumer to establish a 'link' between the two marks. The requirements for a 'link' are not onerous since the 'mere calling to mind' has been found to be enough to establish a 'link' between a mark with a reputation and an allegedly infringing activity.⁴⁰

The Court of Justice in *Intel v CPM*⁴¹ made it clear, however, that detriment or unfair advantage must also be proved over and above the mere existence of a link. The Court of Justice added that any detriment to the distinctive character of a trade mark 'requires evidence of a change in the economic behaviour of the average consumer of the goods or services for which the earlier mark was registered consequent on the use of the later mark, or a serious likelihood that such a change will occur in future'.⁴² Since proof of actual damage is not required, pre-emptive action can be taken where there is a serious risk of injury being caused in the future to avoid a 'death by a thousand cuts'. After all, a trade mark owner cannot be required to wait for (damage) actually to occur. That said, the proprietor must still 'prove that there is a serious risk that such an injury will occur in future'.⁴³

The second form of injury is detriment to the repute of the earlier mark. The Court of Justice held that detriment is caused when the earlier mark is used in such a way that the trade mark's power of attraction is reduced. This could in particular arise from the fact that the 'goods or services offered by the third party possess a characteristic or a quality which is liable to have a negative impact on the image of the mark'.⁴⁴ Under the unfair advantage defence, a trade mark owner is entitled to prevent others from using the mark when to do so would take unfair advantage of the earlier mark,⁴⁵ particularly when such use induces consumers to buy the allegedly infringing products.

3D PRINTING AND THE COMMERCIAL SCALE OF INFRINGEMENT

It must be stressed that trade marks are not protected in the context of non-business transactions.⁴⁶ As such, the trade mark owner may not oppose practices that do not have an adverse effect on the functions of trade marks. In practice, the interpretation of use in the 'course of trade' is rarely contested. However, if the promise of easy 3D printing materialises, the line between private and commercial use could be blurred. The question must be raised, therefore: what amounts to the use of 3D products in the course of trade for the purpose of the law on trade marks? In this regard, the Court of Justice ruled that the phrase 'use in the course of trade' relates purely to the existence of economic activity⁴⁷ or when the use is intended to result in 'gain' and not as a 'private matter'.⁴⁸

Determining what is an economic activity is not, however, always straightforward. For example, deliveries made without charge are sometimes made in the context of a commercial

³⁸ *ibid* 37.

³⁹ *Intel* (n 34) 63.

⁴⁰ *ibid*

⁴¹ *Intel* (n 34) 38.

⁴² *ibid* 77.

⁴³ *Intel* (n 34) 38.

⁴⁴ Case C-487/07 *L'Oréal SA v Bellure NV* [2009] ECR I-5185, para 40.

⁴⁵ *ibid* 49.

⁴⁶ Case C-324/09 *L'Oréal SA and others v eBay International AG* [2012] Bus. L.R. 1369, para 79.

⁴⁷ *Arsenal* (n 27) 40.

⁴⁸ C-17/06 *Celine Sarl v Celine SA Case* [2007] European Trade Mark Report 80, para 17.

activity with a view to future economic advantage, namely acquiring new outlets.⁴⁹ In addition, account must be taken of the volume and frequency of sales.⁵⁰ A one-off sale will not be considered to occur in the context of a commercial activity.⁵¹ In the 3D context, establishing the parameters of a private activity is likely to be problematic since the number of consumers who might seek to print 3D printable products for personal consumption or otherwise could easily reach a staggering number. Instead of a few individuals selling a few hundred items, the likely scenario will be a few hundred thousand individual sellers each selling a few counterfeit items.

The question then is what options are open to a trade mark right holder where an individual vendor wishes to sell 3D printed goods. Could the trade mark right holder sue the seller, the creator of the CAD file, or both? To answer these questions, the following two scenarios will be investigated: first, the use of the mark in relation to 3D printed products under Article 5(1)(a) and 5(2) of the TMD and; second, the use of the mark in relation to CAD files.

USE OF A 3D PRINTED PRODUCT UNDER ARTICLE 5(1)(A) OF THE TMD

Trade mark protection under Article 5(1)(a) of the TMD is absolute; in this case, confusion is assumed.⁵² After all, it is difficult to envisage cases where the use of an identical mark in relation to identical goods would not adversely affect the original function of the mark.⁵³ The term ‘absolute’ however does not mean that the protection of the trade mark owner is assured in respect of all parties and in all circumstances.⁵⁴

On these facts where the relevant public does not perceive the use of the sign identical to the mark appearing on the 3D product marketed by unauthorised party as an indication that those products come from the owner of the trade mark or from economically linked undertakings, the court would have to conclude that the use at issue does not affect the original function of the mark.

So, under *BMW*, infringement rests on the average consumer’s perception of the meaning of the defendant’s use of the mark in relation to the 3D product: would a consumer view it as a badge of origin or for other purposes? However, according to *Arsenal*, the fact that a consumer might perceive the 3D branded products as replicas, for instance, is irrelevant so long as such a ‘use’ of the sign in relation to the 3D product affects, or is liable to affect, the origin, quality, advertising or communication functions of the trade mark. Put simply, the use of the sign as a trade mark is not essential.

This flexible reading of a trade mark use seems to suggest that under the functions-oriented approach, the use of a sign in relation to 3D printed goods that are identical to those for which the trade mark is registered is likely to be considered an infringement.⁵⁵ However, it should be noted that the final result will ultimately rest on whether the mark was used in ‘the course of trade’. In the realm of 3D printing this clause is likely to be tested very thoroughly.

Assuming the use (sale) falls foul of Article 5(1) of the TMD and passes the volume threshold established by the Court of Justice in *L’Oréal v eBay*, the sale of the 3D printed

⁴⁹ Case C-96/09 P *Anheuser-Busch, Inc v Budějovický Budvar* [2011] European Trade Mark Report 31, para 152.

⁵⁰ *L’Oréal* (n 46) 55. The claims in this case involved the prevention of ‘use’ in relation to goods intended for sale to third states, goods including sample or tester products, goods without original packaging and in two of the transactions counterfeit items bearing the claimants’ trade marks.

⁵¹ *L’Oréal SA* (n 46), para 52 (Opinion of Advocate General Jääskinen). In *Kean v. McGivan* [1982] FSR 119, 120 per Ackner LJ (the Court of Appeal denied the claimant (a small northern-based political party) a business status because his commercial activities were limited to the hiring of halls for meetings. It was a passing off case.).

⁵² Recital 11 of TMD.

⁵³ Bently and Sherman (n 22) 978.

⁵⁴ *Adam Opel* (n 32) 24.

⁵⁵ The use of the mark in such an accurate and detailed 3D copy of the real product is unlikely to be in accordance with honest commercial or industrial practice; Case C-228/03 *Gillette Co, Gillette Finland Co OY v LA-Laboratories Ltd OY* [2005] European Trade Mark Report 67, para 45.

objects would be considered an infringement under trade mark law, but who is to blame? In principle, the seller of 3D printed counterfeit products is likely to be liable for the infringement.

USE OF A 3D PRINTED PRODUCT UNDER ARTICLE 5(2) OF THE TMD

It is clear that the use of a reputable mark in relation to 3D printed goods could have certain repercussions for the quality, communication and advertising functions of that mark. In principle, the owner of a trade mark with a reputation has the right to prevent the use of the mark in relation to any good or service that takes unfair advantage of, or is detrimental to, the distinctive character or the repute of the trade mark. Acknowledging this fact, the Court of Justice jurisprudence seems to enable the owners of marks with a reputation to stop a slow but steady erosion of their distinctiveness by individual users.⁵⁶ According to Jacob L.J., ‘the harm or prospect of harm must be real and tangible’⁵⁷ before relief can be obtained. As such, it would seem that for dilution to occur there must be an economic behavioural change that adversely affects the earlier mark and which ultimately involves the reduction of consumers’ willingness to purchase goods or services sold under the earlier mark.⁵⁸ In any event, it is for national courts to determine whether the use at issue constitutes use without due cause which takes unfair advantage of, or is detrimental to, the distinctive character or the repute of the registered trade mark.

In theory, trade mark law therefore seems well placed to tackle 3D luxury goods concerns. Unauthorised 3D printed products are counterfeit and there is no reason to believe that they should be treated any differently under Article 5(2).

WHEN DOES A CAD FILE INFRINGE A TRADE MARK?

Unlike the use of a trade mark in relation to 3D printed products, the use of a CAD file raises a few truly novel legal challenges, particularly where the CAD file was distributed (sold) and then used by others to print branded goods. If this was the case, and assuming that the trade mark infringement claims would cover both the CAD file and the 3D products, would the use of the trade mark in connection with the CAD file be considered a trade mark use *per se*? Would such a use fall foul of Article 5(1) or (2) of the TMD? To answer these questions, it must first be determined whether a CAD file is a good or a service. Given space constraints, however, we will not address this question in detail. In principle, Section 61(1) of the UK Sale of Goods Act 1979 (SGA) defines goods as being ‘all personal chattels other than things in action and money’.⁵⁹ Typically, computer software is not usually classified as a good unless the digital product is supplied on some physical medium.⁶⁰ If a product is customised to a customer’s needs, it will probably be classified as a service.⁶¹ In *St Albans v Computers Limited*,⁶² the Court of Appeal (England and Wales) ruled that when the software is contained on a ‘machine readable medium, such as paper cards, magnetic tapes, discs, drums or magnetic bubbles’, then this falls within the definition of ‘goods’ under the Sale of Goods Act 1979. In *London v IBM*,⁶³ the High Court (England and Wales) also made it clear that if a customer buys a music CD or if the CD contains software, it must be considered a ‘good’, but this is not the case where the software is licensed.⁶⁴ CAD files are likely therefore to be treated as either

⁵⁶ *Intel* (n 34) para 37.

⁵⁷ *ibid*

⁵⁸ *Intel* (n 34) 77-38; *L’Oréal* (n 44) 40-49.

⁵⁹ Sale of Goods Act 1979 s.61(1) and the Supply of Goods and Services Act 1982 s.18.

⁶⁰ *Fern Computer Consultancy Ltd v Intergraph Cadworx & Analysis Solutions Inc* [2014] Bus. L.R. 1397 (Chancery Division), paras 10-62, 63, 66, 68 and 70.

⁶¹ Robert Bradgate, ‘Consumer Rights in Digital Products’ (2010) UK Department for Business, Innovation and Skills 45.

⁶² *St Albans City and DC v International Computers Ltd* [1996] EWCA Civ 1296 (England and Wales Court of Appeal (Civil Division)).

⁶³ *London Borough of Southwark v IBM UK Ltd* [2011] EWHC 549 (TCC), 96 (b). (England and Wales High Court (Technology and Construction Court)).

⁶⁴ *ibid* 77.

goods or services depending on how the software is obtained. When examined under the trade mark lens, however, the legal characterisation of CAD software raises a number of further questions.

If trade mark proprietors are to be able to prevent the use or distribution of their marks in relation to CAD files under Article 5(1) of the TMD, the following, usually straightforward, conditions merit detailed discussion: (i) use in the course of trade; (ii) use in relation to goods or services which are identical or similar to those covered by the trade marks; and (iii) use that affects or is liable to affect the essential function of the trade mark.⁶⁵ When the creator of a CAD file, which includes a sign corresponding to a trade mark, offers the file for sale, he does so as a commercial activity. Satisfying condition (i) therefore is not onerous here. Would such use however be in relation to identical or similar goods or services within the terms of (ii)? As noted under Article 5(1) of the TMD, the use must be in relation to goods or services that are identical or similar to those covered by the trade mark.⁶⁶ A CAD file comprises computer code enabling the virtual on-screen representation of a physical product;⁶⁷ it is not itself a copy of that product. While CAD software has many uses,⁶⁸ from a consumer's perspective the CAD file here serves one object: enabling the product to be printed. That is why the CAD software should not be equated with, and is not identical or similar to, the goods or services covered by the trade mark. Establishing that the creator of the CAD file sought to mislead users as to the origin of the file, leading them to believe that the file originated from the proprietor of the trade mark or from an economically connected undertaking, would therefore be quite challenging. Unlike use in relation to 3D printed goods, the use of the mark in relation to the CAD file is thus unlikely to affect or be liable to affect the essential function of the trade mark. It would not appear to be a use in relation to identical or similar goods or services for the purpose of Article 5(1). In fact, it is doubtful whether the CAD file *per se* is capable of conveying specific information, particularly about the source of goods or services within the meaning of Article 5(1) of the TMD.

A further issue arises in relation to the protection of trade marks with a reputation under Article 5(2) of the TMD. Whether infringement occurs will here depend on whether the sign is used in relation to the CAD file in a way that is detrimental to, or takes unfair advantage of, the trade mark. The way consumers perceive the use of the mark with a reputation in relation to the CAD file is not, *in itself*, an obstacle to the protection conferred by Article 5(2), so long as the relevant public establishes a link between the use of the sign in the CAD file and the mark.⁶⁹

Article 5(3) of the TMD provides a non-exhaustive list of the types of use that may be prevented, including the use of the sign on business papers and on advertising.⁷⁰ Would, for instance, advertising for a CAD file, making reference to a mark, be considered a use that causes detriment to or takes unfair advantage of the mark? This would seem a possibility in that the mark is used here to promote sales of software designed to facilitate the production of multiple, comparatively cheap copies of the trade marked goods.

Given the limitations and uncertainties highlighted above, and since the use of a mark in a CAD file may potentially contribute to infringements by third parties arising from trade in the printed goods, would it be possible to sue the creator of the CAD file for contributory infringement? There is, however, no express provision in the TMD which addresses the

⁶⁵ Article 5(1) of TMD.

⁶⁶ *Arsenal* (n 27) 56.

⁶⁷ 'Speak CAD Like a Pro: 13 CAD File Acronyms Explained' (3 March 2013) <www.autocad360.com/blog/13-cad-acronyms-explained/> accessed 16 February 2015.

⁶⁸ *ibid*

⁶⁹ Case C-408/01 *Adidas-Salomon AG, Adidas Benelux BV v Fitnessworld Trading Ltd* [2004] European Trade Mark Report 10, para 39.

⁷⁰ Article 5(3)(d) of TMD.

question of ‘contributory’ infringement and it is rather unlikely that such a concept of infringement will be accepted.⁷¹

Free Is Expensive: CAD Files and the Limitations of Trade Mark Law

A final possible scenario must be examined: one in which a freely distributed CAD file, which does not include a trade mark, is then used by others to print branded goods. Such a ‘charitable’ act still could wreak commercial havoc.⁷² The harm will be done to the trade mark even with the acknowledgement that no reasonable consumer is likely to mistakenly believe that the creator of the CAD file is in fact related to the proprietor of the brand. In light of the above, is it possible to regulate private activities which in a substantial way interfere with or obstruct the exercise of the trade mark owner’s rights? In *Wickard v. Filburn*, the US Supreme Court pointed out that wheat grown for personal use could be federally regulated because it removed a customer from the interstate wheat market, adding that: ‘the commerce power is not confined in its exercise to the regulation of commerce among the states. It extends to those activities intrastate which so affect interstate commerce’.⁷³ So in principle there should be no reason for not regulating private activities that impede the exercise of the trade mark owner’s rights, but how? Such activities are more likely to be controlled under either patent law (assuming the file is patented) or copyright law⁷⁴ than trade mark law. Even under copyright law, the impact on the use of the CAD file varies depending on how the file was created in the first place.⁷⁵ It remains to be seen how courts will deal with such possibilities.

CONCLUSION

The discussion above suggests that there are significant limitations to the protection trade mark law can offer rights owners in the developing field of 3D printing. The requirement that the sign be used ‘in the course of trade’ for an infringement to arise is of particular importance here, in that 3D printing may be on a substantial scale and at the same time primarily for private purposes. For this reason trade mark holders may well wish to pursue the providers of CAD files. But CAD files do not directly replicate the physical products protected by the mark, and protection may, at most, be available in relation to marks with a reputation. Considering the impact CAD files could have on the functions of such marks, they should be treated as goods or services for the purposes of trade mark law. Even so, trade mark protection will remain limited to cases where CAD files are distributed in the course of trade. In other cases where, for example, CAD files are not sold, it is hard to imagine any possible involvement for trade mark law.

⁷¹ Concerning the difficulty of establishing contributory liability under trade mark law, see C-236/08, C-237/08 and C-238/08 *Google France, Google Inc. v Louis Vuitton Malletier* [2010] European Trade Mark Report 30, Opinion of AG Poiares, paras 48, 54, 83, 113 and 117.

⁷² In one incident, Defence Distributed posted a 3D gun blueprint on its web that was downloaded over 100,000 times before it was taken down, ‘the 3D-Printed Guns Are Now On Pirate Bay For Download, Despite State Department Efforts To Stamp Them Out’ (10 May 2013) < http://www.huffingtonpost.com/2013/05/10/3d-guns-pirate-bay_n_3253207.html.> accessed 6 February 2015.

⁷³ *Wickard v. Filburn* 317 U.S. 111 (1942), 317 U. S. 124.

⁷⁴ Li and others (n 7) 8-11; D Mendis, ‘Clone Wars: Episode II- The Next Generation: The Copyright Implications relating to 3DPrinting and Counter-Aided Design (CAD)Files’ (2014) 6 Law, Innovation and Technology 265.

⁷⁵ Scanned, drawn or otherwise.