

# SECURITY INTERESTS IN INTELLECTUAL PROPERTY: PROPOSALS FOR REFORM

*This article considers some of the difficulties arising from how English law conceptualises certain types of security interests over Intellectual Property Rights (IPRs), and the problems arising from dual registration systems. This analysis is informed by a critical comparison of the current English doctrine, alongside the US system and the proposals from UNCITRAL. It is shown that no single system is ideal for regulating a world of integrated goods (whereby goods and software are inextricably interconnected), but aspects of different systems can be useful for dealing with the complex but necessary relationship between tangibles and IPRs. It will be further argued that reform of security interest law resulting in a single register for security interests which treats goods and IPRs as analogous for security purposes, is necessary. Recommendations to deal with problems concerning purchase money security interests, and third party purchasers in potential conflicts with IPRs holders, are also put forward.*

Keywords: Security Interests; Intellectual Property; Embedded Software; Integrated Goods; Law Reform.

## INTRODUCTION

The laws of information technology and commercial finance speak, but not to one another.<sup>1</sup>

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<sup>1</sup> JC Lipson, 'Financing Information Technologies: Fairness and Function' [2001] Wis L Rev 1067 at 1068.

The English law on security interests over intellectual property rights (IPRs) is conceptually and practically confusing, complex, and incoherent.<sup>2</sup> This is recognised by some,<sup>3</sup> but ignored by others.<sup>4</sup> The most comprehensive analysis is probably still Townend's *Using Intellectual Property as Security*,<sup>5</sup> which suffers from being twenty years old. In a more recent (though brief) analysis, Tosato provides an outline bibliography which indicates at best a moderate growth in the body of literature on security interests over IPRs in English law,<sup>6</sup> and it remains true that '[v]ery little has been written on the problem [...]'.<sup>7</sup> This article addresses this lacuna.

There are potential explanations for this limited body of academic commentary. The English focus on characterising the security interest as opposed to the nature of the property covered,<sup>8</sup> the arguable sufficiency of assignment (and other equitable concepts) for obtaining security over intangible assets,<sup>9</sup> the historic lack of reliance on IPRs as assets for secured financing,<sup>10</sup> along with the inevitable difficulties facing lenders as a result of the '[t]he inherent

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<sup>2</sup> For the purposes of this article, a security interest is taken to simply mean an interest over an asset that secures an obligation. This article does not aim to provide an exhaustive outline of the English law of security interests: the reader is directed to the standard texts on such matters. The discussion of the conceptual problems with protecting security over IPRs, below at text following n 59, examines the types of security interest relevant to this specific topic. For a useful recent analysis of security interests, see GG Castellano 'Reforming Non-Possessory Secured Transactions Laws: A New Strategy?' (2015) 78 MLR 611 (arguing in favour of the UNCITRAL system generally).

<sup>3</sup> Allen and Overy LLP made this point in their submission to I Hargreaves *Digital Opportunity: A Review of Intellectual Property and Growth* (May 2011), available at <http://tinyurl.com/mql4pjy>, but the Hargreaves Review did not discuss the issue.

<sup>4</sup> cf I Davies, 'Technology-based small firms and the commodification of intellectual property rights' in J de Lacy (ed) *The Reform of UK Personal Property Security Law: Comparative Perspectives* (Abingdon: Routledge-Cavendish, 2010) 308 at 309 noting that this issue was not considered in A Gowers *Gowers Review of Intellectual Property* (December 2006).

<sup>5</sup> DMR Townend *Using Intellectual Property as Security* (London: The Intellectual Property Institute, 1996).

<sup>6</sup> See eg A Tosato 'Security interests over intellectual property' (2011) 6 J of Intel Prop L and Practice 93 at 94 fn 7.

<sup>7</sup> M Henry 'Mortgages of intellectual property in the United Kingdom' (1992) 14 EIPR 158 at 158.

<sup>8</sup> M Bridge, L Gullifer, G McMeel and S Worthington *The Law of Personal Property* (London: Sweet & Maxwell, 2013) at para 26-001.

<sup>9</sup> H Beale, M Bridge, L Gullifer and E Lomnicka *The Law of Security and Title-Based Financing* (Oxford: OUP, 2nd ed, 2012) at paras 1.13, 7.73.

<sup>10</sup> cf Davies, 'Technology-based small firms', above n 4, at 308-309; Tosato, 'Security interests over intellectual property', above n 6, at 93 fn 4. See also Scottish Law Commission *Discussion Paper on Moveable Transactions* (DP 151, June 2011) 246; A Orr and T Guthrie 'Fixed security rights over intellectual property in Scotland' (1996) 18 EIPR 597.

vagueness and fluidity’ of such assets,<sup>11</sup> may explain (though not necessarily justify) the often cursory analyses of this issue.<sup>12</sup> Nevertheless, this article argues against such conservatism, because of the costs it creates. Where there are ‘interlocking structures of copyright and commercial finance law’,<sup>13</sup> there is ‘tension’ between IP regimes protecting endeavour by exclusive rights and secured credit regimes of priority and enforcement rules:<sup>14</sup> ‘the result is extreme uncertainty.’<sup>15</sup> The increasing value of IPRs as viable assets for security provides a strong financial incentive to examine this area of law.<sup>16</sup>

This article critiques the current English system of security interests over IPRs. The next section will briefly examine how the increasing integration of goods and IPRs can lead to problems in the field of secured financing. Having thus indicated some of the technological drivers for reform, this article outlines the practical and conceptual difficulties facing creditors and debtors. Then the dangers of multiple, mixed regimes for security (whether functional, formal, or merely apparent) over different types of IPRs, which in turn are distinct from regimes governing security over goods, are examined. The potential of integrated goods means an effective secured transactions law should treat IPRs as functionally analogous to goods, especially in how they operate as debt-bearing assets. This path necessarily involves a unitary register of security interests, subjecting IPRs to rules on PMSIs, and providing clear and

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<sup>11</sup> J Lipton ‘Security Interests in Intellectual Property’ in de Lacy (ed) *Reform of UK Personal Property Security Law* (above n 4) 285 at 288.

<sup>12</sup> cf Beale, Bridge, Gullifer and Lomnicka *The Law of Security and Title-Based Financing*, above n 9 at paras 14.61–14.76; W Cornish, D Llewellyn and T Aplin *Cornish, Llewellyn & Aplin: Intellectual Property: Patents, Copyright, Trade Marks and Allied Rights* (London: Sweet & Maxwell, 8th ed, 2013) (no discussion of the issue); L Bently and B Sherman *Intellectual Property Law* (Oxford: OUP, 4th ed, 2014) pp 300–301 (copyright), 645 (patents), 1097–1110 (trade marks).

<sup>13</sup> PR Barry ‘Software Copyrights as Loan Collateral: Evaluating the Reform Proposals’ (1994–95) 46 *Hastings LJ* 581 at 584.

<sup>14</sup> Davies ‘Technology-based small firms’, above n 4 at 308.

<sup>15</sup> S Ghosh ‘The Morphing of Property Rules and Liability Rules: An Intellectual Property Optimist Examines Article 9 and Bankruptcy’ (1997–98) 8 *Fordham Intel Prop, Media & Ent LJ* 99 at 101.

<sup>16</sup> See eg Davies, ‘Technology-based small firms’, above n 4 at 308; V Bromfield and J Runeckles ‘Taking security over intellectual property: a practical overview’ (2006) 28 *EIPR* 344 at 344.

definitive protection for third party purchasers from the grasp of holders of encumbrances over IPRs. In making this argument, this article will make recommendations drawing from current domestic and international doctrines and systems.

## **THE RELATIONSHIP BETWEEN IPRs AND GOODS: TECHNOLOGICAL DRIVERS FOR REFORM**

IPRs and goods have always been in a complicated relationship: the integration of IPRs and goods may make a tangible thing useable,<sup>17</sup> or it may make a tangible thing valuable or meaningful,<sup>18</sup> and so determining the boundaries of IP law often relies on dealings in goods.<sup>19</sup> Thus the story of Watt's steam engine was one of patent disputes, and the difficult relationship between IP and tangibles continues unresolved now that '[d]igitization is the new steam'.<sup>20</sup> The integration between IPRs and tangible things requires deep analysis of various aspects. The specific focus of this article is the need for reconciliation between the relatively well-developed (even if otherwise complex and archaic) law on security interests over goods, and the relatively unknown and inappropriate regime for security interests over IPRs. It is tentatively suggested the necessity of reform will become particularly acute with the development of integrated goods and by the growth of an "internet of things".

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<sup>17</sup> This "non-usability" may be a consequence of law: *Microbeads SA v Vinhurst Road Markings* [1975] 1 Lloyd's Rep 375.

<sup>18</sup> *Niblett v Confectioners' Materials Co Ltd* [1921] 3 KB 387; *Accurist Watches Ltd v King* [1992] FSR 80 (ChD) at 87-88 (Millett J).

<sup>19</sup> I Eagles and L Longdin *Refusals to License Intellectual Property: Testing the Limits of Law and Economics* (Oxford: Hart Publishing, 2011) at 119. See also eg DL Burk, 'Copyright and the New Materialism' in J Lai and A Maget (eds) *Intellectual Property and Access to Im/material Goods* (2015, forthcoming) (UC Irvine School of Law Research Paper No 2015-69) at <http://ssrn.com/abstract=2611166>.

<sup>20</sup> DR Desai 'The New Steam: On Digitization, Decentralization, and Disruption' (2014) 65 Hastings LJ 1469 at 1481.

The internet of things has been described as consisting of ‘a complex network of connected smart objects and devices [which] basically consists of three elements: (1) smart devices, (2) protocols for facilitating communication between the smart devices, and (3) systems and methods for storing and analyzing data acquired by the smart devices.’<sup>21</sup> The internet of things moves on from a system of connection between people via things to a system whereby things themselves are interconnected.<sup>22</sup> The logical consequence, in the words of the CEO of Google, Eric Schmidt, is that

the Internet will disappear ... There will be ... things that you are interacting with that you won’t even sense ... It will be part of your presence all the time. Imagine you walk into a room, and the room is dynamic. And with your permission and all of that, you are interacting with the things going on in the room.<sup>23</sup>

An internet of things necessitates integrated goods, ie goods which have extensive and potentially novel forms of integration between the physical functionality of the goods and the software enabling the functionality.<sup>24</sup> Examples of integrated goods include smartphones, which

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<sup>21</sup> W K Robinson, ‘Patent Law Challenges for the Internet of Things’ (2015) 15 Wake Forest Journal of Business and Intellectual Property Law 655, 657.

<sup>22</sup> Ibid at 661-62.

<sup>23</sup> M Prigg ‘Google’s Eric Schmidt claims the ‘internet will disappear’ as everything in our life gets connected’ DailyMail.com (22 January 2015), available at <http://tinyurl.com/lzhvxql>. See further eg M Chui, M Löffler and R Roberts ‘The Internet of Things’ (March 2010), available at <http://tinyurl.com/n4ksysw>; B Wasik ‘In the Programmable World, All Our Objects Will Act As One’ (14 May 2013), available at <http://tinyurl.com/kbrylt5>; W K Hon, C Millard and J Singh, ‘Twenty Legal Considerations for Clouds of Things’ (4 January 2016) Queen Mary School of Law Legal Studies Research Paper No. 216/2016, available at <http://ssrn.com/abstract=2716966>. The internet of things is part of the EU’s digital agenda: <http://ec.europa.eu/digital-agenda/en/internet-things>; <http://www.internet-of-things-research.eu/>. It also has potential for the development of circular economies: see e.g. Ellen MacArthur Foundation, *Intelligent Assets: Unlocking the Circular Economy Potential* (8 February 2016), available at <http://www.ellenmacarthurfoundation.org/publications>.

<sup>24</sup> See eg S Thomas ‘Goods with embedded software: obligations under Section 12 of the Sale of Goods Act 1979’ (2012) 26 Int Rev of L, Computers & Tech 165; S Thomas ‘Sale of Goods and Intellectual Property: Problems with

need software, protected by copyright, to operate at primary (operating systems), secondary (inbuilt user software) and tertiary (third party apps) levels. Other examples might include 3D printers, which not only require software to operate but will also require what are in essence blueprints, protected by copyright or other forms of IP such as design rights, to produce the 3D printed objects.<sup>25</sup> A third type may be smart meters which obtain and generate data (whether for example they measure traffic flow, home utilities usage, or other commercial behaviour). We can thus see the operative (smartphones), productive (3D printers), and information-generative (smart meters) functions of software coming to the fore, but it must be acknowledged that these functions (particularly the generative function) are embedded throughout different integrated goods to varying degrees.

It is worth noting that the terminology varies: Robinson uses the term '[s]mart objects—devices with sensing, processing and communication abilities'.<sup>26</sup> Manwaring and Clarke attempt to move away from the potential limitation attended on the phrase 'internet of things', and in doing so provide a coherent and expansive concept – eObjects: 'An eObject is an object that is not inherently computerised, but into which has been embedded one or more computer processors with data-collection, data-handling and data communication capabilities.'<sup>27</sup> They note though that even this definition is incomplete, and stress that eObjects can be 'nested within

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Ownership' (2014) Intellectual Property Forum 25; Robinson, 'Patent Law Challenges', above n 21, 659: with the internet of things 'technology will rely heavily on software'.

<sup>25</sup> See eg DR Desai and GN Magliocca 'Patents, Meet Napster: 3D Printing and the Digitization of Things' (2014) 102 Geo LJ 1691; D Mendis "'The Clone Wars': Episode 1 - The Rise of 3D Printing and its Implications for Intellectual Property Law: Learning Lessons from the Past?" [2013] 35 EIPR 155.

<sup>26</sup> Robinson, 'Patent Law Challenges', above n 21, 662. Hon, Millard and Singh, 'Twenty Legal Considerations for Clouds of Things', above n 23, 5-8 simply uses the term 'Thing', which is followed in G N La Diega and I Walden, 'Contracting for the "Internet of Things": Looking into the Nest' (1 February 2016) Queen Mary School of Law Legal Studies Research Paper No. 219/2016, available at <http://ssrn.com/abstract=2725913>.

<sup>27</sup> K Manwaring and R Clarke, 'Surfing the third wave of computing: a framework for research into networked eObjects' (2015) 31 Computer Law & Security Review 586, 599.

a larger object, or elements of a larger, distributed system.’<sup>28</sup> They also emphasise the potentially enormous range of attribute that can be ascribed to eObjects, which necessarily give rise to many different legal issues.<sup>29</sup> This concept of eObjects is valuable in demonstrating the breadth of impact of technological change, but as a terminology it arguably suffers from being overly broad. What can be drawn though from these discussions is the recognition of the impossibility of simply treating the tangible and the intangible as analytically distinct. Regardless of terminology – internet of things, integrated goods, eObjects – what is clear is the increasing irrelevance of attempts to draw distinct lines as between software and hardware.

These changes suggest the possibility of a paradigm shift in the nature of production and consumption,<sup>30</sup> but there is also a complex contradiction. On one hand, the integrated nature of novel technologies enables greater autonomy, in terms of operational capacity (consider the massive interest in autonomous cars, and artificial intelligence and robotics generally),<sup>31</sup> and ‘[e]merging technologies frequently eliminate the capacity-limiting constraints common in the previous technological era’.<sup>32</sup> However, the technical capacity to remotely control the use of goods may negatively impact on implicit social values about the extent of such use,<sup>33</sup> as well as questions arising from the use of private and/or commercial information generated by such devices. The growing potential difficulty of the integration of goods and IPRs is exemplified by

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<sup>28</sup> Ibid.

<sup>29</sup> Ibid at 601.

<sup>30</sup> Cf Robinson, ‘Patent Law Challenges’, above n 21, 661: the internet of things ‘is a paradigm shift from Internet Age technology.’

<sup>31</sup> See eg <http://www.bbc.co.uk/news/technology-33978561> (September 2015) (various articles considering the impact of intelligent machines).

<sup>32</sup> See eg H Surden ‘Technological Cost as Law in Intellectual Property’ (2013) 27 Harvard J of L & Tech 135 at 138.

<sup>33</sup> Ibid at 178-182. See also Desai ‘The New Steam’, above n 20 at 1481: ‘as soon as digitization offers a method of control, it will be exerted.’ See further JP Liu ‘Paracopyright – A peculiar right to control access’ and S Dusollier ‘The protection of technological measures: Much ado about nothing of silent remodelling of copyright?’ in RC Dreyfuss and JC Ginsburg (eds) *Intellectual Property at the Edge: The Contested Contours of IP* (Cambridge: CUP, 2014) chs 11-12.

an as yet un-litigated dispute in the US. In April 2015, *Wired* published a story concerning John Deere claiming that purchasers of tractors were mere licensees due to the presence of software (arguably rendering the tractor a prime example of integrated goods).<sup>34</sup> The contradiction between the exclusionary purposes of IPRs and how the automatic and operative function of integration between software and tangible things entails less exclusion and greater connectivity, replicates the tension between regimes focused on tangible assets and information assets (IPRs).

Integrated goods are poorly served by English law which continues to treat tangible and intangible “things” as conceptually distinguishable, leading to division between software and goods.<sup>35</sup> This problem is exacerbated by the complicated structure of IPRs that has developed to protect software.<sup>36</sup> This creates serious challenges in terms of secured financing, which is divided in its treatment of goods and IPRs. This division is explored in the following section, but it is worth briefly noting the potential consequences of this division. By providing different regimes for the granting or acquisition of security over IPRs or tangibles, English law struggles to provide a coherent doctrine for effective utilisation of secured credit as a financing mechanism for the development of either IPRs that are used in or with goods or, potentially more importantly, for integrated goods themselves. These difficulties have also plagued other systems, such as that in the US, where the literature on this topic is much more substantial, with Lipson suggesting fifteen years ago that:

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<sup>34</sup> K Wiens, ‘We Can’t Let John Deere Destroy the Very Idea of Ownership’ (21 April 2015) *Wired Business*, available at <http://www.wired.com/2015/04/dmca-ownership-john-deere/>.

<sup>35</sup> For a valuable overview of the debates in this area, and a provocative suggestion to resolve the debate, see eg S Green and D Saidov, ‘Software as Goods’ [2007] JBL 161. See also K Moon, ‘The nature of computer programs: Tangible? Goods? Personal Property? Intellectual Property?’ [2009] 31 EIPR 396; A Marsoof, ‘Digital content and the definition dilemma under the Sale of Goods Act 1979: Will the Consumer Rights Bill 2013 remedy the malady?’ (2014) 9 Journal of International Commercial Law and Technology 285.

<sup>36</sup> See eg D Rowland, U Kohl and A Charlesworth *Information Technology Law* (Abingdon: Routledge 2012) ch 10.

the “big case” ... will probably not involve pure information technology assets, such as software or data. Rather, the case ... will go something like this: A debtor will grant a security interest in items of equipment or inventory which contain embedded computer programs.<sup>37</sup>

Whilst this “big case” has seemingly yet to emerge in either English or US law, there are instances where the problematic relationship between IPRs and goods might give cause for concern. Later in this article, the contemporary problems facing purchasers of goods subject to IPRs as well as the implications of the exclusion of purchasers of fully-digital assets from exhaustion or “first sale” protection as against IPRs holders are considered.<sup>38</sup>

The potential of new technologies integrating tangibles and intangibles necessitates a radical approach to avoid this “big case”. Whilst it is accepted that novel technologies such as integrated goods may well be sufficiently served (regulated) by current legal regimes in a number of circumstances,<sup>39</sup> this is not the case with the current regimes of secured finance.<sup>40</sup> It would be an absurd situation were one party may have a security interest over goods, whilst another party may have a security interest over the IP governing the software that makes the goods actually work (especially if the software is purchased from an unconnected manufacturer), and a third party may possibly have a security interest over the integrated goods as a whole (purporting to cover both the tangible and intangible assets). The difficulties arising from this

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<sup>37</sup> Lipson ‘Financing Information Technologies’, above n 1 at 1121 n 286.

<sup>38</sup> Below text following n 204.

<sup>39</sup> K Manwaring, ‘A legal analysis of socio-technological change arising out of eObjects’ (5 January 2016) UNSW Law Research Paper No. 2016-15, available at <http://ssrn.com/abstract=2690024>.

<sup>40</sup> There is no mention of this issue in e.g. Manwaring and Clarke, ‘Surfing the third wave of computing’, above n 27; Manwaring, ‘A legal analysis of socio-technological change arising out of eObjects’, above n 39. Hon, Millard and Singh, ‘Twenty Legal Considerations for Clouds of Things’, above n 23, 15-17, and La Diega and Walden, ‘Contracting for the “Internet of Things”’, above n 26, 7 indicate various potential issues concerning ownership and control but not the problems concerning security interests discussed here.

relatively simple situation are exacerbated by the susceptibility of integrated goods to variations in the level and availability of security over different types of IPRs. Yet this is the position in English law. As such, the extremely poor state of the current English law requires a cultural leap and the development of a new commercial law.<sup>41</sup> This new commercial law should treat IPRs and goods as analogous for the purposes of secured financing. Taking this cultural leap shifts the focus away from the ownership or title (and control thereof) of IPRs or goods (away also from the complex arguments over the nature of software). Instead, focusing on the manner by which the security interest gains and maintains protection ie registration, is what this article proposes.

## PROTECTION OF SECURITY OVER IPRs IN ENGLISH LAW

This article proceeds on the basis that IPRs vary considerably in their characterisation and in the way they are protected,<sup>42</sup> and that IPRs are incredibly important in the modern (national, regional, international) economy not just in themselves,<sup>43</sup> but because of their interaction and interconnection with goods. This article also proceeds on the basis that ‘security [is] a fact of

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<sup>41</sup> This article will not be covering consumer law issues either generally or in light of the Consumer Rights Act 2015, not least because the obligation to have the right to supply digital content (s 41) is functionally identical to SGA s12. It is also noted that whilst the definition of ‘digital content’ in s 2(9) of that Act would align that concept with the notion of embedded software, it continues the increasingly dated delineation of goods and software.

<sup>42</sup> Lipton ‘Security Interests in Intellectual Property’, above n 11 at 287-300 (whilst there are significant differences between IPRs, there are three broad groups: (1) copyrights, patents and trade marks; (2) sui generis statutory IP, such as design rights and semiconductor topography rights; and (3) quasi-IP, such as trade secrets, confidential information, domain names, and unregistered trade marks). This article focuses on the first group, but the other types are considered on an ad hoc basis. See also eg X-TN Nguyen ‘Commercial Law Collides with Cyberspace: The Trouble with Perfection – Insecurity Interests in the New Corporate Asset’ (2002) 59 Wash & Lee L Rev 37 (arguing that domain names can and should be subject to security interests). For the substantive meaning and content of IP law, the reader is directed towards the standard texts on IP.

<sup>43</sup> WJ Murphy and T Ward ‘Proposal for a Centralized and Integrated Registry for Security Interests in Intellectual Property’ (2001-02) 41 IDEA 297 at 301; I Davies ‘Secured Financing of Intellectual Property Assets and the Reform of English Personal Property Security Law’ (2006) 26 OJLS 559 at 576; M Elliot ‘IP Creates Jobs for America’ *Global Intellectual Property Centre* (25 May 2012) at <http://tinyurl.com/npq77g9>. See further I Davies ‘Patent Grants, Signals and Commodification: A Legal Dilemma?’ in I Davies (ed) *Issues in International Commercial Law* (Aldershot: Ashgate, 2005) at 53-61 (assessing the correlation between patent grants and economic activity); M Bridge, *Personal Property Law* (Oxford: Clarendon Press, 4th ed, 2015) at 14: the importance of IPRs ‘can barely be overestimated in modern commercial conditions’.

life.’<sup>44</sup> This article thus considers three interconnected areas of difficulty in the field of security interests over IPRs: practical problems, the conceptualisation of security interests in IPRs, and problems concerning multiple registration.

### *Practical problems*

At the outset it is necessary to set aside practical problems concerning the determination of ownership of IPRs (particularly as certain IPRs are subject to challenge)<sup>45</sup> or their valuation.<sup>46</sup> Although significant, such problems exist regardless of the method of financing utilised. A more profound practical difficulty concerns the limitations on control over intangible assets,<sup>47</sup> as the lack of possible repossession and liquidation of duplicable intangibles appears to render any security worthless.<sup>48</sup> Conversely, repossession of a tangible medium in order to control embedded IPRs may impose unacceptable costs on the creditor.<sup>49</sup> However, the lack of a right to repossess may be mitigated by rights of control, which for software may be particularly valuable even if it may actually only exist as a threat rather than a practical reality.<sup>50</sup> So whilst further

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<sup>44</sup> AL Diamond *A Review of Security Interests in Property* (London: HMSO 1989) at para 8.1.5.

<sup>45</sup> See eg Davies, ‘Secured Financing of Intellectual Property Assets’, above n 43 at 574-575; LA Heymann ‘Overlapping Intellectual Property Doctrines: Election of Rights versus Selection of Remedies’ (2013) 17 Stan Tech L Rev 241. See also eg ‘The Government’s Response to the Law Commission’s Report (Law Com 346) “Patents, Trade Marks and Design Rights: Groundless Threats”’ at <http://tinyurl.com/kytt7t3>; Law Commission, *Patents, Trade Marks and Design Rights: Groundless Threats* (London: Law Com No 346, 2014).

<sup>46</sup> Lipton ‘Security Interests in Intellectual Property’, above n 11 at 303; RJ Mann ‘Secured Credit and Software Financing’ (1999-2000) 85 Cornell L Rev 134 at 139.

<sup>47</sup> *Your Response Ltd v Datateam Business Media Ltd* [2014] EWCA Civ 281 (not possible to exercise a lien over an electronic database), following *OBG Ltd v Allan* [2007] UKHL 21, [2008] 1 AC 1.

<sup>48</sup> Mann ‘Secured Credit and Software Financing’, above n 46 at 177-179.

<sup>49</sup> RJ Mann ‘Strategy and Force in the Liquidation of Secured Debt’ (1997) 96 Michigan L Rev 159 at 181

<sup>50</sup> Mann ‘Secured Credit and Software Financing’, above n 46 at 178 fn 178. Termination of the use of software by a seller may infringe the Sale of Goods Act 1979, s 12(2)(b): *Rubicon Computer Systems Ltd v United Paints Ltd* (2000) 2 TCLR 453. The position of secured parties is unclear in this case.

research into the actual practical operation of IP financing is necessary,<sup>51</sup> it also remains the case that conceptual problems have been and remain unresolved.<sup>52</sup>

### *Conceptual problems*

Characterising IPRs raises difficult conceptual questions.<sup>53</sup> IPRs look like choses in action,<sup>54</sup> and some IPRs might well be,<sup>55</sup> but other IPRs such as patents are explicitly not.<sup>56</sup>

Nevertheless, the “main” IPRs – patents, copyright, trade marks, and registered designs – are property rights.<sup>57</sup> However, untangling the relationship between registration and the proprietary status of some IPRs,<sup>58</sup> and ascertaining a sufficient (legal or equitable) proprietary interest in

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<sup>51</sup> Lipson ‘Financing Information Technologies’, above n 1 at 1156-1157. See also eg M Bezant ‘The Use of Intellectual Property as Security for Debt Finance’ (1998) 1 *Journal of Knowledge Management* 237 at 253; Ghosh ‘The Morphing of Property Rules’, above n 15 at 103; Townend *Using Intellectual Property as Security*, above n 5 at 30.

<sup>52</sup> See eg S Weinberger ‘Perfection of Security Interests in Copyrights: The Peregrine Effect on the Orion Pictures Plan of Reorganization’ (1993) 11 *Cardozo Arts and Ent LJ* 959 (noting how the fallout from the Orion Pictures bankruptcy demonstrates the negative impact of a lack of conceptual clarity).

<sup>53</sup> Tosato ‘Security interests over intellectual property’, above n 6 at 94 fn 15 (noting the considerable academic debate in the 1890s concerning the nature of IP); Lipton ‘Security Interests in Intellectual Property’, above n 11 at 301: ‘it makes little conceptual sense to take a legal or equitable mortgage or charge over computer software per se as distinct from, say, the copyright in the software’.

<sup>54</sup> *Torkington v Magee* [1902] 2 KB 427 at 430 (Channel J): choses in action are ‘all personal rights of property which can only be claimed or enforced by action, and not by taking physical possession’.

<sup>55</sup> *Your Response Ltd*, above n 47 at [26] (Moore-Bick LJ): the decision in *Colonial Bank v Whinney* (1886) 11 App Cas 426 ‘makes it very difficult to accept that the common law recognises the existence of intangible property other than choses in action (apart from patents, which are subject to statutory classification)’.

<sup>56</sup> Patents Act 1977, s 30(1). Cf Townend *Using Intellectual Property as Security*, above n 5 at 18; Davies ‘Patent Grants, Signals and Commodification’, above n 43 at 61 (both suggesting that, functionally, patents are choses in action).

<sup>57</sup> Patents Act 1977, s 30; Copyrights, Designs and Patents Act 1988, s 90(1); Trade Marks Act 1994, s 24; Registered Designs Act 1949, s 19. The following discussion will only cover patents and trade marks, however, registered designs appear to have the same basic structure, and thus the same potential flaws, with regard to security: Beale, Bridge, Gullifer and Lomnicka *The Law of Security and Title-Based Financing*, above n 9 at paras 14.72–14.76.

<sup>58</sup> Davies ‘Technology-based small firms’, above n 4 at 315: ‘This [the proprietary nature of such IPRs] is the effect of registration.’ Cf C Mulligan ‘A Numerus Clausus Principle for Intellectual Property’ (2013) 80 *Tenn L Rev* 235 at 252-255: one of the consequences of the lack of a coherent numerus clausus principle for IPRs is the capacity in IP law for prohibitions on alienation to develop.

some IPRs,<sup>59</sup> is complicated and creates difficulties for the English security interests regime which functions by manipulating such concepts. Although these complications spoil any façade of elegance, it appears possible (if not necessarily certain) to obtain present and future security interests in the main IPRs.

Under the Patents Act 1977 it is possible to assign or mortgage a patent,<sup>60</sup> and the mortgage is by assignment (it is not a true legal mortgage as that would imply the impossible: a right to possession).<sup>61</sup> An assignment may be equitable, in which case a mere intention to transfer the relevant interest suffices,<sup>62</sup> but in either case the assignment or mortgage of a patent will be ‘void unless it is in writing and is signed by or on behalf of the assignor or mortgagor’.<sup>63</sup> This formality rule must be seen in light of the obligation to register a patent mortgage in the patents register as soon as is practicable,<sup>64</sup> but it is unclear whether registration is necessary to create the mortgage.<sup>65</sup> The important decision of the Court of Appeal in *Van Gelder, Apsimon and Co Ltd v The Sowerby Bridge Flour Society Ltd* sets out that the mortgagor of an IPR has to be treated the same as the mortgagor of any other property.<sup>66</sup> As Tosato correctly notes,<sup>67</sup> the registration practices that distinguished assignees from mortgagees in IPRs, which influenced the Court of

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<sup>59</sup> Lipton ‘Security Interests in Intellectual Property’, above n 11 at 300. As to the necessity of including in a mortgage agreement those quasi-IPRs in order to cover them, see Henry ‘Mortgages of intellectual property’, above n 7 at 161-163. It is difficult to see how the proposed EU Directive on protecting trade secrets will provide any clarity on this issue: see eg [http://ec.europa.eu/internal\\_market/iprenforcement/trade\\_secrets/index\\_en.htm](http://ec.europa.eu/internal_market/iprenforcement/trade_secrets/index_en.htm).

<sup>60</sup> Patents Act 1977, s 30(2).

<sup>61</sup> This may be the best way of explaining the Patents Act 1977, s 30(2): ‘Subject to section 36(3) below, any patent or any such application, or any right in it, may be assigned or mortgaged.’

<sup>62</sup> *Swiss Bank v Lloyds Bank* [1982] AC 584 at 613 (Lord Wilberforce). See further eg *Gorringe v Irwell India Rubber Works* (1886) LR 34 ChD 128; *William Brandt’s Sons & Co v Dunlop Rubber Co Ltd* [1905] AC 454; *Baxter International Inc v Nederlands Produktielaboratorium voor Bloedtransfusiapparatuur BV* [1998] RPC 250. s 30(6).

<sup>64</sup> Patent Rules 2007, SI 2007/3291, r 44(6); Patents Act 1977, s 33(3)(b).

<sup>65</sup> Beale, Bridge, Gullifer and Lomnicka *The Law of Security and Title-Based Financing*, above n 9 at para 14.61.

<sup>66</sup> (1890) 44 ChD 374. As to the possible problems arising due to confusion between a charge and a mortgage, see eg Henry ‘Mortgages of intellectual property’, above n 7. However, as a result of changes to the Companies Act 2006, for which see text to n 106, these problems may be less relevant now in that particular context.

<sup>67</sup> Tosato ‘Security interests over intellectual property’, above n 6 at 96-97.

Appeal, has not really changed and also applies in the trade mark context. This would seem to be a practical mechanism to avoid problems concerning transfers of title to IPRs, and may support Bromfield and Runeckles's argument that the most effective method of gaining security is taking a fixed charge over registered IP.<sup>68</sup> However, this does not deal with the fact that only an equitable mortgage can cover future property.<sup>69</sup> In the event of an equitable mortgage over a patent, this may also be registerable.<sup>70</sup>

A combination of the Patents Act 1977 and the Patent Rules 2007 may enable registration of a charge, as distinct from a mortgage. Rule 44(6) of the Patent Rules 2007 states that 'a notice of any transaction, instrument or event mentioned in [the Patents Act 1977] section 32(2)(b) or 33(3) must be entered in the register as soon as practicable after it occurs (or, if later, when the application is published).' Section 32(2)(b) of the 1977 Act provides for rules to govern 'the registration of transactions, instruments or events affecting rights in or under patents and applications'. Section 33(3) states those transactions to which provisions on the effect of registration apply:

(a) the assignment or assignation of a patent or application for a patent, or a right in it; (b) the mortgage of a patent or application or the granting of security over it; (c) the grant, assignment or assignation of a licence or sub-licence, or mortgage of a licence or sub-licence, under a patent or application

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<sup>68</sup> Bromfield and Runeckles 'Taking security over intellectual property', above n 16 at 346.

<sup>69</sup> In such a case, the mortgagor holds the future property on trust for the mortgagee: *Holroyd v Marshall* (1862) 10 HL Cas 191, 11 ER 999.

<sup>70</sup> Patents Act 1977, s 32(2)(b).

For Beale et al, this would be sufficient to cover a charge,<sup>71</sup> but the lack of specific reference to a charge requires an inelegant combination of reliance on the phrase ‘or the granting of security over it’ in section 33(3)(b) and the apparent possibility of obtaining equitable title,<sup>72</sup> to reach this conclusion. Further incoherence surrounds preparatory acts: an application to register a mortgage is treated the same as a mortgage,<sup>73</sup> but an agreement to assign is not within the meaning of an assignment for the purposes of section 33(3)(a) of the Patents Act 1977.<sup>74</sup>

A registered trade mark can be subject to a legal mortgage,<sup>75</sup> or assigned by way of security.<sup>76</sup> The formalities of assignment noted above apply here also. Additionally, ‘the grant of a licence under a registered trade mark’ and ‘the granting of any security interest (whether fixed or floating) over a registered trade mark or any right in or under it’, are also registerable transactions.<sup>77</sup> This is clear evidence of the possibility of registration of equitable charges.<sup>78</sup> As with patents, a mere application for a trade mark can be subject to these provisions.<sup>79</sup> The reforming effect of the Trade Marks Act 1994 is clear: it ‘emancipated registered trade marks from the tyranny of transactional formalism and enabled them to be use in all manner of

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<sup>71</sup> Beale, Bridge, Gullifer and Lomnicka *The Law of Security and Title-Based Financing*, above n 9 at para 14.62.

<sup>72</sup> Baxter, above n 62. Cf Scottish Law Commission *Discussion Paper*, above n 10 at [7.25]: the Patents Act 1977, s 33 ‘is not easy to understand and we are not sure that we do understand it.’

<sup>73</sup> Patents Act 1977, s 33(4).

<sup>74</sup> *Coflexip Stena Offshore Ltd’s Patent* [1997] RPC 179 at 188. It is tentatively suggested that this problem may be a reason for the apparently limited demand for, or supply of, debt financing at the early stage of IP development (as noted by Bezant ‘The Use of Intellectual Property as Security for Debt Finance’, above n 51 at 239).

<sup>75</sup> Trade Marks Act 1994, s 24(5). There may be pragmatic reasons why a financier would not want to become a legal mortgagee: see eg R Burrell and M Handler, ‘The PPSA and Registered Trade Marks: When Bureaucratic Systems Collide’ (2011) 34 UNSW LJ 600 at 617.

<sup>76</sup> Trade Marks Act 1994, s 24(1), (4). This altered the previous position: *Holly Hobbie Trade Mark* [1984] RPC 329 (HL).

<sup>77</sup> Trade Marks Act 1994, s 25(2)(b), (c).

<sup>78</sup> Beale, Bridge, Gullifer and Lomnicka *The Law of Security and Title-Based Financing*, above n 9 at 14.68.

<sup>79</sup> Trade Marks Act 1994, s 27(3).

commercial activity.’<sup>80</sup> Whilst this reform provided some legislatively-created conceptual clarity, difficulties with the registration system per se remain and are illustrated below.

Section 90(1) of the Copyright, Designs and Patents Act 1988 states: ‘Copyright is transmissible by assignment, by testamentary disposition or by operation of law, as personal or moveable property.’ This phraseology appears to suggest that, as with patents, copyright must be mortgaged by assignment, and if so then the issues concerning such assignments of patents and registered trade marks apply here also.<sup>81</sup> Allen and Overy, in their submission to the Hargreaves Review, stated this was an unpopular financing mechanism, and criticised it as complex and disadvantageous for copyright owners.<sup>82</sup> However, unlike the statutory provisions for patents, there is some clarity on the status of security over future copyright:

Where by an agreement made in relation to future copyright, and signed by or on behalf of the prospective owner of the copyright, the prospective owner purports to assign the future copyright (wholly or partially) to another person, then if, on the copyright coming into existence, the assignee or another person claiming under him would be entitled as against all other persons to require the copyright to be vested in him, the copyright shall vest in the assignee or his successor in title by virtue of this subsection.<sup>83</sup>

Therefore, legal mortgages by assignment of copyright (whether future or present) appear possible. It also appears possible to have an implied agreement to assign, taking effect by means

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<sup>80</sup> J Phillips, ‘Intellectual property as security for debt finance – a time to advance?’ (1997) 19 EIPR 276 at 276.

<sup>81</sup> Copyright, Designs and Patents Act 1988, s 90(3): to be effective an assignment must be signed by or on behalf of the assignor.

<sup>82</sup> <http://tinyurl.com/mql4pijy>.

<sup>83</sup> Copyright, Designs and Patents Act 1988, s 91(1); *Performing Rights Society Ltd v B4U Network (Europe) Ltd* [2012] EWHC 3010 (Ch), [2013] FSR 19.

of a trust for the assignee.<sup>84</sup> However, the absence of a copyright register necessitates a licence-based approach to dealing with the transfer of title involved in a legal mortgage. Tosato argues that the grant of an exclusive licence by the mortgagee can allow the mortgagor to deal with and prevent disposition of the copyright.<sup>85</sup> Whilst prima facie attractive, proprietary matters would thus be dealt with as if merely personal interests, and problems concerning notice and third parties would not be resolved (due to the absence of an appropriate register). More problematic still is that the licence approach limits the viability of multiple sequential security interests, and restricting copyright securitisation to a single creditor does not make much commercial sense.

What then is the impact for integrated goods of these conceptual complications over IPRs? If such goods contain software, operating a patented process to produce a trademarked object (a rough description of a 3D printer), then it may be possible to take (or grant) security over the tangible goods under that regime (eg a fixed or floating charge) but it is not necessarily the case for the IPRs. Also if a change in or to an IPRs-protected element (of which integrated goods necessarily have vast and complex collections) occurs (eg a software upgrade), then it may be unclear whether a secured financier has priority over the IPRs holders, let alone the difficulties for other parties in a chain of transactions involving integrated goods. Moreover, these questions are multiplied (thus increasing costs) in light of the differences between systems for different IPRs. Integrated goods are thus objects of greater than usual conceptual flux: interests (ie IPRs) operate under different regimes, may come into being and disappear through various direct and indirect, formal and informal actions. This makes difficult any attempts at low-cost determination of rights (for further commercial purposes). However, it is suggested that the real difficulty is not conceptual: what is the case for IPRs is broadly the same for goods

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<sup>84</sup> See eg *Griggs Group Ltd v Evans* [2005] EWCA Civ 11, [2005] FSR 31.

<sup>85</sup> Tosato 'Security interests over intellectual property', above n 6 at 97.

with regard to the conceptual murkiness of secured transactions regimes in English law. And in both cases the conceptual problems can be nullified by an appropriate registration regime. Yet as will now be shown, inconsistency and incoherence within and lack of coordination between multiple regimes mean that English law cannot meet this standard.

### *Problems with registration*

It has already been seen how registration plays an important role in the creation and protection of certain IPRs, but registration requirements and benefits are inconsistent across the field of IPRs.<sup>86</sup> There is also a disconnection between registration as an IPR, and registration of a security interest over a particular IPR.<sup>87</sup> Registration of a patent mortgage is not compulsory, nor is it a perfection requirement, but it does preserve priority,<sup>88</sup> and the same appears to be the case with trade marks.<sup>89</sup> However, for patents as well as trade marks, the extent of the notice effect of registration is unclear, because of the overlapping relationship with the registration scheme set out under the Companies Act 2006.<sup>90</sup> First though, the complex operation and unclear effect of the patents register will be explored.

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<sup>86</sup> cf Tosato 'Security interests over intellectual property', above n 6 at 98: 'invisibility and blind spots must be considered inherent flaws of these registration systems.' See also Patents Act 1977, s 72; Trade Marks Act 1994 ss 46-47: the patent or trade mark can be de-registered.

<sup>87</sup> In Scottish law, the 'standard view' is that 'unless and until there is registration [of IPRs], the grantee has only a personal right. So no security can exist before registration', but it is possible for there to be unregistered security though such security 'lives a precarious life.' Scottish Law Commission, *Discussion Paper*, above n 10 at [7.27].

<sup>88</sup> Patents Act 1977, s 33(1). As noted in Beale, Bridge, Gullifer and Lomnicka *The Law of Security and Title-Based Financing*, above n 9 at para 14.66, it is unclear whether this rule would apply if the later charge was also unregistered, but the submission therein that the common law rule that equitable charges rank in order of creation would be a simple and acceptable solution here.

<sup>89</sup> Beale, Bridge, Gullifer and Lomnicka *The Law of Security and Title-Based Financing*, above n 9 at 14.69-14.71.

<sup>90</sup> See eg Davies 'Technology-based small firms', above n 4 at 316. Such registration may provide constructive notice sufficient to satisfy the knowledge element of the priority scheme set out in the Patents Act 1977, but this is not entirely clear: Beale, Bridge, Gullifer and Lomnicka *The Law of Security and Title-Based Financing*, above n 9 at 14.65: 'It is *possible* that, in this context, "know" may include having constructive notice' (emphasis added).

According to section 32(9) of the Patents Act 1977, the register of patents is ‘prima facie evidence of anything required or authorised [by the Patents Act or rules thereto] to be registered’,<sup>91</sup> which has the effect of prioritising registered transactions, ie mortgages or assignments. But, ‘[r]egistration is not equivalent to legal title.’<sup>92</sup> So a later transaction takes priority over an earlier unregistered transaction,<sup>93</sup> and ‘[t]hus, a bona fide purchaser without notice of some unregistered defect in the title which he has acquired is likely to retain ownership despite that defect.’<sup>94</sup> The lack of certainty over ownership is troubling, as is the fact that whilst knowledge or notice is key,<sup>95</sup> it is unclear whether constructive notice suffices.<sup>96</sup> Equally unclear is whether there is an obligation to inspect the patent file and not merely the register entry.<sup>97</sup> It is also unclear whether the later transaction must itself be registered to take priority over the earlier unregistered transaction.<sup>98</sup>

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<sup>91</sup> *Fraser v Oystertec* [2003] EWHC 2787 (Pat Ct), [2004] FSR (22) at 446 (Peter Prescott QC)

<sup>92</sup> *ibid.*

<sup>93</sup> Patents Act 1977, s 33(1). The effect of failure to register is set out in s 68, which is ‘not a very well thought-out piece of legislation’: *Schütz (UK) Ltd v Werit UK Ltd (No 2)* [2011] EWCA Civ 927, [2012] FSR (2) at para 29 (Sir Robin Jacob). See also *LG Electronics v NCR Financial Solutions Group Ltd* [2003] FSR (24) (Pat Ct) at para 18 (Jacob J): ‘People need to know who is on the register. This section is aimed at making the people who own the monopolies get on the register. If they do not, they lose their right to damages and they do not have a right to sell the right to damages to someone else.’ The decision of the Supreme Court in *Schütz* on s 68 is partially obiter and thus the true meaning of that section remains to be determined: *CIPA Guide to the Patents Act* (London: Sweet & Maxwell, 7th ed, 2011) at para 68.02.

<sup>94</sup> *CIPA Guide*, above n 93 at para 33.03.

<sup>95</sup> *Transfer Systems v International Consultants* BL 0/1/05, cited in *CIPA Guide*, above n 93 at para 33.04.

<sup>96</sup> cf *In Morey’s Patent* (1858) 25 Beav 581, 53 ER 759; Bridge, Gullifer, McMeel, and Worthington *The Law of Personal Property*, above n 8 at para 36-029 (the facts of *Morey’s Patent* suggest there was actual notice).

<sup>97</sup> *CIPA Guide*, above n 93 at para 33.04.

<sup>98</sup> *ibid* at para 33.03: ‘The later transaction, instrument or event need not itself be registered, but will only take effect as against subsequent transactions when notice of it has been given to the public by an application to register it.’ Beale, Bridge, Gullifer and Lomnicka *The Law of Security and Title-Based Financing*, above n 9 at para 14.66 (noting that s 33 might be interpreted as only applying to registered mortgages). See also Bridge, Gullifer, McMeel, and Worthington *The Law of Personal Property*, above n 8 at para 36-029, noting potential problems of circularity. Contrast *Finecard International Ltd v Urquhart Dyke & Lord* [2005] EWHC 2481 (Ch), [2006] FSR (27) at 511 (Peter Smith J): ‘The purpose of [Patents Act 1977, s 33] is to provide that priority as between persons who claim to have acquired the property in a patent shall be regulated by the priority according to registration.’

The Patent Rules provide further detail: the application to register inter alia an assignment or mortgage must ‘include evidence establishing the transaction, instrument or event.’<sup>99</sup> The Chartered Institute of Patent Attorney’s Guide to the Patent Act 1977 (‘CIPA Guide’) states that ‘[i]t is not essential for [Patent Form 21]<sup>100</sup> to be accompanied by any further evidence of the transaction, instrument or event provided that this form is signed at Pt 7 by, or on behalf of, *all* parties in the case of an assignment, or by (or on behalf of) the grantor alone in the case of a mortgage, licence, sub-licence or security.’<sup>101</sup> The implication of a distinction between assignment and security (which thus implies that assignment is something other than a security transaction), and the suggestion that a charge (as distinct from a mortgage) over a patent is possible,<sup>102</sup> illustrates a disconnection with doctrine. Moreover, the different obligations with regard to signatures depending on whether there is an assignment or other type of security transaction, does not seem to be based on the doctrine set out in the Patent Act 1977 itself. Another comment in the CIPA Guide gives rise to further concerns:

If there has been a chain of successive assignments, fees can be saved by seeking to register only the final transaction in the chain. However, signatures for all the parties, or copies of each of the assignments, will need to be produced in order to satisfy the Comptroller of the entitlement of the ultimate assignee to be registered as proprietor. However, if that is done, the intermediate “links” in the chain will not be recorded in the register.<sup>103</sup>

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<sup>99</sup> Patent Rules 2007, r 47(1)(b).

<sup>100</sup> On which the application to register the transaction must be made: Patent Rules 2007, r 47(1)(a).

<sup>101</sup> *CIPA Guide*, above n 93 at para 32.26.

<sup>102</sup> See above n 72.

<sup>103</sup> *CIPA Guide*, above n 93 at para 32.26.

If this is so future purchasers face considerable difficulty in mapping out the chain of financing transactions with sufficient clarity to determine with any reasonable certainty whether title is clean.<sup>104</sup> This difficulty specifically concerns the patent regime, yet further potential costs and risks arise depending on the corporate personality of the parties.

Registration is necessary under the Companies Act 2006 regime if the security is granted by a company. However, in April 2013,<sup>105</sup> chapters 1 and 2 of Part 25 of the Companies Act 2006 were repealed and replaced with new section 859A-Q. Under the previous iteration, by virtue section 860(7)(i) of the Companies Act 2006, it was possible to register ‘a charge on goodwill or on any intellectual property.’ Section 860(4) of the 2006 Act stated that ‘[f]or the purposes of section 860(7)(i), “intellectual property” means (a) any patent, trade mark, registered design, copyright or design right; (b) any licence under or in respect of any such right.’ This obviously covered both types of IPR, ie those “registerable” and “unregisterable” under their own specialist schemes.

Under the new iteration, all charges (which covers mortgages<sup>106</sup>) are registerable.<sup>107</sup> This would be the functional equivalent of old section 860(7)(i): the general must include the specific. However, clarification of registration of charges over IP must be drawn from new section 859D, which sets out the particulars for charges that must be sent to the Registrar, by either the company or a person interested in the charge (section 859A(2)). Thus if a charge is ‘created or

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<sup>104</sup> This aspect is partially mitigated by the existence of an Assignment Index for patents, held at the British Library, which provides a record of assignments and mortgages. See *CIPA Guide*, above n 93 at para 32.34.

<sup>105</sup> The Companies Act 2006 (Amendment of Part 25) Regulations 2013, SI 2013/600. For an overview, see eg --, ‘Revised system of registration of company charges comes into force – at last’ [2013] Company Law Newsletter 1.

<sup>106</sup> Companies Act 2006, s 859A(7).

<sup>107</sup> There are three exceptions: Companies Act 2006, s 859A(1); (6): a charge in favour of a landlord on a cash deposit given as a security in connection with the lease of land; a charge created by a member of Lloyd’s to secure its obligations in connection with its underwriting business at Lloyd’s; and a charge excluded by or under any other Act.

evidenced by an instrument’,<sup>108</sup> it must contain inter alia details as to ‘whether (and if so, a short description of) any ... intellectual property that is registered or required to be registered in the United Kingdom, is subject to a charge (which is not a floating charge) or fixed security included in the instrument’.<sup>109</sup> If the charge is not created or evidenced by an instrument,<sup>110</sup> then the particulars merely need to provide inter alia ‘the nature of the charge’, ‘a short description of the property ... charged’ and ‘the obligations secured by the charge’.<sup>111</sup> The definition of IP given in old section 860(4) is replicated verbatim.<sup>112</sup> It may be argued that this change does not alter the regime for registration of a company charge as against IPRs. If so, then a potentially significant gap still exists with regard to the granting of security over IPRs by unincorporated organisations, which are not covered by the Companies Act 2006 regime. The granting of security over ‘personal chattels’ by unincorporated organisations is covered by the Bills of Sale Acts 1878-91,<sup>113</sup> but the Bills of Sale Acts cannot cover IPRs, not least because such assets must be ‘capable of complete transfer by delivery’.<sup>114</sup> Consequently, an unincorporated organisation will be unable to grant a registerable security interest under either the Companies Act or Bills of Sale Act regimes, and may also be prevented from registering such an IPR in a specialist register.

Another problem unaddressed by the new system is the position regarding non-registerable IPRs. Is the definition of IP in the Act as including copyright redundant, since copyright is not

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<sup>108</sup> Companies Act 2006, s 859D(1)(c).

<sup>109</sup> Companies Act 2006, s 859D(2)(d).

<sup>110</sup> Companies Act 2006, s 859D(1)(d).

<sup>111</sup> Companies Act 2006, s 859D(3)(c)-(e).

<sup>112</sup> Companies Act 2006, s 859D(5). This means, in essence, that the current register is no different to the 1928 version, which is of course ‘unfortunate’: J de Lacy ‘Reflections on the Ambit and Reform of Part 12 of the Companies Act 1985 and the Doctrine of Constructive Notice’ in J de Lacy (ed) *The Reform of United Kingdom Company Law* (London: Cavendish Publishing Ltd, 2002) 333 at 337.

<sup>113</sup> See generally Beale, Bridge, Gullifer and Lomnicka *The Law of Security and Title-Based Financing*, above n 9 at ch 11.

<sup>114</sup> Bills of Sale Act 1878, s 4. It appears that this issue will not be resolved by the proposed reforms to the Bills of Sale regime: Law Commission, *Bills of Sale: A Consultation Paper* (Law Com CP 225, September 2015) [8.19] (excluding IPRs from the reform proposals).

‘registered or required to be registered in the United Kingdom’? If the just-quoted phrase is strictly interpreted, then it would appear that the inclusion of copyright in the definition of IP can only be relevant for those charges that are not created or evidenced by an instrument.

Furthermore, the non-comprehensive definition of IP for the purpose of the general registration regime obviously means certain types of IPR, such as database rights, are not registerable.<sup>115</sup>

Additional problems may arise due to the nature of that which is registered in the general register: if a security interest over copyright is registerable in the general register it will most likely be the sort that is not evidenced or created by an instrument (due to the absence of registration for copyright qua copyright). Consequently, such details of the copyright that are provided may necessitate what Tosato called ‘extensive due diligence’,<sup>116</sup> but what may more accurately be called *excessive* due diligence, up the chain of title. Thus as was also the case with the specific register for patents, downstream purchasers will face difficulties in ascertaining the presence of security interests.

The presence of specialist registers for IPRs is often treated as justification for restricting the coverage of a general scheme of registerable security interests.<sup>117</sup> Thus in the Law Commission Consultative Report on company security interests, registerable IPRs would be outside the proposed scheme, as the specialist registration mechanisms existing for IPRs would suffice.<sup>118</sup>

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<sup>115</sup> Davies ‘Technology-based small firms’, above n 4 at 315.

<sup>116</sup> Tosato ‘Security interests over intellectual property’, above n 6 at 100.

<sup>117</sup> *ibid* at 100: ‘The absence of a specialist register, combined with the compulsory registration and the priority rules that govern the CA, renders taking security over a copyright owned by a company one of the most palatable IPRs to use as collateral.’

<sup>118</sup> Law Commission *Company Security Interests: A Consultative Report* (London: Law Com CP 176, 2004) paras. 2.20; 2.48; 2.50-2.51. This followed from the same suggestion in the Consultative Paper: Law Commission *Registration of Security Interests: Company Charges and Property other than Land* (London: Law Com CP 164, 2002) para 4.211. Cf Security Interests (Jersey) Law 2012, s 4(a)(v): ‘any intellectual property created under the law of Jersey other than intellectual property registered on a register of intellectual property in Jersey’ is covered, thus potentially setting up distinct regimes for different types of IPRs. However, it is worth noting that Security Interests (Jersey) Law 2012 is the first stage, and the second stage (which will cover tangible movables) will lead to

Similarly, UNCITRAL's 2011 supplement to its legislative guide on secured transactions,<sup>119</sup> concerning security rights in IP, simply involved explaining how the main legislative guide would apply in the IP context, and by making on a limited number of 'asset-specific recommendations'.<sup>120</sup> Thus neither the Guide nor the Supplement provide a specifically IP-focused security interests regime, and if there is a conflict between two regimes (ie IPRs and security interests), the IP regime is to be preferred and preserved.<sup>121</sup> The Guide and the Supplement both rest on this policy of respecting and retaining an IPRs registry, even if States should perhaps be encouraged to consider consolidating such registries.<sup>122</sup> Indeed, registration in a specialised IPRs registry would take priority over registration in a security interests registry.<sup>123</sup> The Supplement thus takes the position that IP law will take priority over any general secured transactions law.<sup>124</sup>

However, the Law Commission's statements conflating the approaches for mobile equipment and land with that for IPRs are arguably misleading.<sup>125</sup> The Law Commission stated that

if a lender is really serious about taking security over such an asset [ie and IPR], as opposed to just "sweeping it up" together with the rest of the company's assets in general, it will

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the development of a common registration system: Email from Professor Sir Roy Goode to author (20 December 2014).

<sup>119</sup> UNCITRAL *Legislative Guide on Secured Transactions* (New York 2010). For a valuable analysis, see eg N Orkun Akseli *International Secured Transactions Law: Facilitation of Credit and International Conventions and Instruments* (Abingdon: Routledge, 2011).

<sup>120</sup> UNCITRAL *Legislative Guide on Secured Transactions: Supplement on Security Rights in Intellectual Property* (New York 2011). For an outline of the development of this supplement, see eg A Tosato 'The UNCITRAL Annex on security rights in IP: a work in progress' (2009) 4 J of Intel Prop L and Practice 743.

<sup>121</sup> UNCITRAL, *Supplement*, above n 120 at [4].

<sup>122</sup> *ibid* at [126]-[129]. Recommendation 4(b) of the Legislative Guide has particular effect here, reinforcing state autonomy over the regulation of IP law.

<sup>123</sup> *ibid* at [138].

<sup>124</sup> *ibid* at [49]-[52]; [55]; [60]-[63].

<sup>125</sup> Law Commission *Company Security Interests*, above n 118 at paras. 2.51, 3.338.

ensure that all the necessary steps are taken to comply with any specialised “asset” registration or mortgage registration requirements. We have been told that this is the case by those involved in specialised finance in some of these areas.<sup>126</sup>

Notwithstanding that the final quoted sentence appears to be contracted by Allen and Overy’s submission to the Hargreaves Review, it is inappropriate to adopt rationales developed in the context of registers for mobile but non-duplicable assets such as mobile equipment,<sup>127</sup> or those developed in the context of immobile real property. Digitisation means that the content of the subject of an IPR is *hyper*-mobile: it can cross jurisdictional boundaries almost instantaneously,<sup>128</sup> and in doing so digital information is necessarily duplicated,<sup>129</sup> exacerbating the economic problems of non-excludability. An equally important distinction is that, compared to other registers, IP registers do not provide conclusive protection.<sup>130</sup> The most obvious problem though is that unconnected multiple registers create obvious costs and problems for third parties in determining what type of IPR they have and thus whether they can register,<sup>131</sup> as

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<sup>126</sup> *ibid* at para. 3.293.

<sup>127</sup> See eg R Goode *Convention on International Interests in Mobile Equipment and Protocol Thereto on Matters Specific to Aircraft Equipment: Official Commentary* (Rome: UNIDROIT, 2008) 1.

<sup>128</sup> cf JC Lipson ‘Remote Control: Revised Article 9 and the Negotiability of Information’ (2002) 63 Ohio St LJ 1327 at 1412: ‘hyperkinetic information assets.’

<sup>129</sup> cf Lipson ‘Financing Information Technologies’, above n 1 at 1071: ‘theoretically ... security interests in information technology assets will travel like a computer virus, encumbering the intellectual property or data in the computers of every person or company that has communicated, directly or indirectly – with the debtor.’

<sup>130</sup> Townend, *Using Intellectual Property as Security*, above n 5 at 23: the system for IPRs is akin to the system for unregistered land prior to the 1925 reforms: ‘The registers could be said to give a form of notice, but they do not offer complete protection and a one-stop scheme.’ See also R Calnan *Taking Security* (London: Jordans, 3rd ed, 2013) at para 7.283: ‘registration of security over [registerable IPRs] is different from that for ships and aircraft. The [IP] register does not purport to be conclusive.’ See further TM Ward ‘The Perfection and Priority Rules for Security Interests in Copyrights, Patents, and Trademarks: The Current Structural Dissonance and Proposed Legislative Cures’ (2001) 53 Me L Rev 391 at 394 n7 (making the same point about the US law); *Solomons v US* 21 Ct Cl 479 at 483 (1886): IP is ‘closer in analogy to real than to personal estate’ (cited in Murphy and Ward, ‘Proposal for a Centralized and Integrated Registry’, above n 43 at 481).

<sup>131</sup> For a brief analysis of this problem, which otherwise tends to be absent in the literature, see eg Henry ‘Mortgages of intellectual property’, above n 7 at 163-166. See also the Allen & Overy submission to the Hargreaves Review (<http://tinyurl.com/mql4pjy>): ‘the security taker must rely on its registration of the security against the IPR owner at

well as consequential ascertainment difficulty for third party purchasers. This was clear with the Law Commission's initial scheme, where a registerable IPR (eg a patent) would be outside the Law Commission's scheme and subject to the specialist registry scheme. However, if it was unregisterable (eg a copyright) it would come within the Law Commission's scheme, unless it is registerable elsewhere in the world.<sup>132</sup>

Interestingly, the Law Commission's initial approach was later dropped, in favour of a system whereby security interests over IPRs would have to be registered in both the specialist registers and in the general security interests register.<sup>133</sup> This was due to concerns about failures to register and difficulties of searching the relevant register with given information; concerns about costs of double registration could be outweighed by 'the information and general peace of mind it would bring.'<sup>134</sup> If this system had been implemented, the priority rules from the specialised registration system (as opposed to the general system) would have applied.<sup>135</sup> However, such an approach failed to account for the different effects of registration under the different systems.

Most recently the Scottish Law Commission decided in favour of multiple registration.<sup>136</sup> Yet neither Law Commission nor UNCITRAL appeared to have taken into account the US experience, which clearly illustrates the significant problems with multiple registration

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Companies House. There is much uncertainty surrounding the effect of this registration as against subsequent bona fide purchasers (or licensees) or other interest holders for value without notice, and this affects the attractiveness of copyright and other unregistered IPR as a basis for financing.'

<sup>132</sup> Law Commission *Company Security Interests*, above n 118 at para. 3.339. The problems concerning copyright were acknowledged: Law Commission *Company Security Interests*, above n 118 at para. 3.341. However, no clear alternative was suggested.

<sup>133</sup> Law Commission *Company Security Interests* (London: Law Com 296, 2005) at paras 3.41, 3.231.

<sup>134</sup> *ibid* at para 3.40.

<sup>135</sup> *ibid* at para 3.235.

<sup>136</sup> Scottish Law Commission *Discussion Paper*, above n 10 at [19.11]–[19.16], proposal 68. For criticism, see eg H Patrick 'Reform of security over moveable property: a view from practice' (2012) 16 *Edin LR* 272, 276.

regimes.<sup>137</sup> There the consequential academic and practitioner uncertainty, exacerbated by a lack of judicial clarity,<sup>138</sup> has been suggested as the reason for the scarcity of security interests in IPRs.<sup>139</sup> The US experience demonstrates the general dangers of anachronistic and overlapping legal structures, even taking into account the peculiarities of the US constitutional structure (and the oddity of registered copyright). More problematic is that no single reform proposal appears to have dominated the discussion. What therefore can be recommended for English law?

## RECOMMENDATIONS

The English law of security interests over IPRs is unnecessarily complex, with multiple distinct conceptual structures and registration regimes covering different types of IPRs, and a lack of

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<sup>137</sup> The difficult interaction between state and federal registration regimes for IPRs and security interests under the Uniform Commercial Code was pointed out in G Gilmore *Security Interests in Personal Property* vol 1 (Boston, MA: Little Brown & Co, MA 1965) at 402. An enormous volume of work has since been published on the relationship between these regimes, and only a brief outline of this literature can be referred to here. In addition to work already cited, further analysis is provided in eg HC Su and MB Weiss 'Secured Financing of Research and Development Using Intellectual Property as Security - Reconciling Article 9 Heuristics with the Patent Law Regime' (1990-91) 13 Geo Mason U L Rev 607; P Heald 'Resolving Priority Disputes in Intellectual Property Collateral' (1993-94) 1 Journal of Intellectual Property Law 135; AA Babaian 'Striving for Perfection: The Reform Proposals for Copyright-Secured Financing' (1999-2000) 33 Loy L A L Rev 1205; L Brennan 'Financing Intellectual Property under Federal Law: A National Imperative' (2001) 23 Hastings Communication and Ent LJ 195; J Sarnelli 'Grasping for Air: Revised Article 9 and Intellectual Property in an Electronic World' (2004) 11 UCLA Entertainment L Rev 103; X-T Nguyen 'Collateralizing Intellectual Property' (2007-08) 42 Ga L Rev 1; AG Mills 'Perfecting Security Interests in IP: Avoiding the Traps' (2008) Banking LJ 746. Also relevant is the impact of the federal bankruptcy law: see eg PS Menell 'Bankruptcy Treatment of Intellectual Property Assets: An Economic Analysis' (2007) 22 Berkeley Technology LJ 733; ST Schreiner, KB Jordan and NM Lerman 'Perfecting Security Interests in IP: Pitfalls and Bankruptcy Considerations' (2013) 130 (10) Banking LJ 912; *In re Transportation Design & Technology, Inc* 48 BR 635 (Bankr SD Cal 1985) *City Bank and Trust Company v Otto Fabric, Inc* 83 BR 780 (Bankr D Kan 1998); *Chesapeake Fiber Packaging Corp v Sebro Packaging Corp* 143 BR 360 (Bankr D Md 1992), aff'd 8 F3d 817 (4th Cir 1993)).

<sup>138</sup> Compare *In re Peregrine Entertainment, Ltd*, 116 BR 194 (CD Cal 1990) with *In re World Auxiliary Power Co* 303 F3d 1120, 1128 (9th Cir 2002).

<sup>139</sup> S Danamraj 'Priority Disputes Involving Security Interests in Patents: Case Law and Current Proposals' (1993-94) 2 Tex Intel Prop LJ 257 at 257 (citing J Capwell 'Secured Financing in Intellectual Property: Perfection of Security Interests in Copyrights to Computer Programs' (1988) 39 Syracuse L Rev 1041 at 1043). See also A Haemmerli 'Insecurity Interests: Where Intellectual Property and Commercial Law Collide' (1996) 96 Col L Rev 1645 at 1722; PL Choate 'Belts, Suspenders, and the Perfection of Security Interests in Copyrights: The Undressing of the Contemporary Creditor' (1997-98) 31 Loy L A L Rev 1415 at 1419. Cf Mann 'Secured Credit and Software Financing', above n 46: secured financing of software, of both owned and acquired interests, actually happens.

coherence between the IP system(s) and the system(s) governing security over goods. Any reform must ‘put the law in this area into an up to date and coherent form, easier and [make it] simpler to understand and operate’,<sup>140</sup> and to be successful any proposals must be beneficial for practitioners and users of this area of law.<sup>141</sup> It would be jurisprudential masochism for the current reform process to provide a coherent and unified system of security over goods, only for a reformed system to falter at the intangible boundary. Therefore, any reform of the law on security over IPRs must be presented as part of a comprehensive reform of security interests in personal property, which in turn must simplify the acquisition and protection of security interests, increase predictability and certainty, and reduce transactions costs.<sup>142</sup> Achieving balance between the parties will not be easy,<sup>143</sup> but such difficulties must be overcome due to the ‘important policy consequences and practical implications in law’ for the relationship between goods and IP.<sup>144</sup>

### *Conceptual issues*

The sui generis conceptual nature of IPRs makes it difficult, if not impossible, to overlay the current English framework on security interests. A common suggestion to deal with this is to focus on the commercial nature of IPR financing, and let the parties avoid conceptual problems

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<sup>140</sup> <http://securedtransactionslawreformproject.org/>. See also the Case for Reform, available at <http://securedtransactionslawreformproject.org/the-case-for-reform/>.

<sup>141</sup> The revision process of Article 9 in the US involved engagement with representatives from the IP industry (broadly construed): SO Weise ‘The Financing of Intellectual Property under Revised UCC Article 9’ (1999) 74 Chicago-Kent L Rev 1077 at 1078.

<sup>142</sup> These are the goals of the US Article 9 systems: see eg Weise ‘The Financing of Intellectual Property under Revised UCC Article 9’, above n 141 at 1077; the UNCITRAL system: see UNCITRAL, *Supplement*, above n 120 at [1]; and also the Secured Transactions Law Reform Project, above n 140.

<sup>143</sup> cf Weise ‘The Financing of Intellectual Property under Revised UCC Article 9’, above n 141 at 1078: this task ‘generated more controversy than most provisions of Revised Article 9.’

<sup>144</sup> RT Nimmer ‘Revised Article 9 and Intellectual Property Asset Financing’ (2001) 53 Maine L Rev 287 at 294.

by merely licensing the IPR.<sup>145</sup> However, this founders in light of the commercial reality of complex chains of transactions, resulting from multiple sources of goods and IPRs,<sup>146</sup> and multiple sources of financing (including of course secured financing). One major problem concerns the use of assignment and licensing as a means of disposition of use-rights over IPRs down a chain of transactions.<sup>147</sup> Conceptualising the grant of a non-exclusive license of software (for example) as giving rise to a security interest is difficult, because ‘the licensor ... incurs no, or a nominal, marginal cost in entering into a new, additional non-exclusive license.’<sup>148</sup> If this is so, then an arguably unnecessary distinction could arise between exclusive and non-exclusive licenses. This gives rise to absurdity, in light of the hyper-mobile nature of digital information, as the only thing differentiating the different types of license is the claim to exclusivity imposed by the licensor.

Another possible solution may be broader utilisation of special purpose vehicles (SPVs).<sup>149</sup> This approach may be more complex and costly at the outset, but it provides flexibility and partially resolves certain conceptual problems concerning ordinary mortgages and charges over

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<sup>145</sup> See above n 85.

<sup>146</sup> Especially as 3D printing may have a substantial impact on the nature of supply chains: B Depoorter ‘Intellectual Property Infringements & 3D Printing: Decentralized Piracy’ (2014) 65 Hastings LJ 1483 at 1484-1485.

<sup>147</sup> This is also a problem for the UNCITRAL approach. The Supplement points out that should a State adopt the functional approach to security, it would need to ‘coordinate’ its law relating to security over IPRs if that area of law rested on a non-functional expression of security interests: UNCITRAL, *Supplement*, n 120 above at [5]. So any right over an IPR which secures an obligation to pay the acquisition price of an IPR is a security interest (this is the functional approach), but, importantly, this functionalism extends to a license to use an IPR: *ibid* [9]. In terms of coverage, the Supplement takes another broad approach (at [14]): ‘The owner, licensor or licensee may encumber all or part of its rights, if they are transferable under law relating to intellectual property.’ However, it is not the case that all licence agreements create a security interest (see [23]); instead the particular nature of the agreement, and, more fundamentally, the state IP law, will determine whether what occurs between the parties actually creates a security interest. For an example of the impact of the specific agreement: *Northrop Grumman Mission Systems Europe Ltd v BAE Systems (Al Diriyah C41) Ltd* [2015] EWCA Civ 844.

<sup>148</sup> Weise ‘The Financing of Intellectual Property under Revised UCC Article 9’, above n 141 at 1083 fn 21.

<sup>149</sup> See eg Tosato ‘Security interests over intellectual property’, above n 6 at 95-96. Similarly, cf M Risch ‘The Securitization of Patents’ (2013) 63 Duke LJ 89 (patent portfolios should be treated like securities, and tradable as such); D Solomon and M Button ‘Intellectual Property Securitization’ (2014) available at <http://ssrn.com/abstract=2462216>. For an outline of SPVs, see eg A Hudson *The Law of Finance* (London: Sweet & Maxwell, 2nd ed, 2013) ch 44.

IPRs,<sup>150</sup> and may allow for effective reversion of IPRs following repayment of the asset-backed securities.<sup>151</sup> Nevertheless, SPVs may mask the ownership of IPRs, as an SPV may (indeed most probably will) contain a large variety of IPRs: it becomes difficult to determine specifics of individual IPRs. A further difficulty with SPVs is that they may be used as a means to avoid registration.<sup>152</sup> It is also arguable that securitization may only be viable for those IPRs holders with established reputations for income generation.<sup>153</sup> Furthermore, there is only a partial resolution of conceptual difficulties, in the sense that the underlying conceptual problems remain and are only side-stepped by utilization of the SPV approach.<sup>154</sup> As such, SPVs cannot be considered a panacea, even if this area is not a zero-sum game between securitization and security interests.

Another alternative may be to simply legislate for a new conceptual structure. This happened with trade marks, and the conceptual difficulties with patents appear to be caused by statutory provisions in the first place. However, the considerable array of IPRs would necessitate a Herculean legislative effort which may not be efficient. As noted though, there is considerable interconnection between the conceptual problems and problems concerning registration. The answer may therefore lie in a radical solution – a single unitary functional security interest available for *both* tangible assets *and* IPRs. Whilst a unitary security interest in English law

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<sup>150</sup> Tosato 'Security interests over intellectual property', above n 6 at 95-96.

<sup>151</sup> Solomon and Button 'Intellectual Property Securitization', above n 150 at 44.

<sup>152</sup> Another potential problem, presented as a benefit by Solomon and Button 'Intellectual Property Securitization', above n 150 at 44 is the off-balance-sheet nature of securitization. Solomon and Button do note (at 48-64) the potential problems of securitization, especially in light of the collapse of Enron and the 2008 global credit crisis.

<sup>153</sup> Solomon and Button 'Intellectual Property Securitization', above n 150 at 28 (referring to securitization of copyright in the entertainment industry). See further eg JB Sylva 'Bowie Bonds Sold for Far More Than a Song: The Securitization of Intellectual Property As a Super-Charged Vehicle for High Technology Financing' (1999) 15 Santa Clara Comp & High Tech LJ 195.

<sup>154</sup> Tosato 'Security interests over intellectual property', above n 6 at 96 admits as much.

would be itself a substantial and novel step,<sup>155</sup> any reform without this step would not resolve the practical difficulties of distinct, rivalrous registration regimes (which are not designed to perform the function of a security regime). The truly radical step though is the dissolution of the distinction between tangible assets and IPRs. Whilst radical, this step would provide a ‘conceptual neatness’ as well as reducing transaction costs.<sup>156</sup> It would also reduce or even eliminate the tensions arising from placing too much weight on licences and other personal agreements, as mechanisms for resolving what are proprietary issues (as between debtor and creditor, and between both debtor and creditor and third parties). Furthermore, in light of the identified potential growth of integrated goods, treating as the same (for security purposes at the very least) tangible assets and IPRs would allow for an easy route into the world of secured financing for creators and users of integrated goods. But since it is clear that English law already operates under a system whereby security interests do not distinguish, formally at least, between different types of asset,<sup>157</sup> what this radical proposal reduces down to is an alternative registration regime.

### *Registration*

A unified registry of security interests over goods and IPRs is both valuable and possible. The Secretary of State already has the power to make provision for information sharing between the general register of charges and any special register.<sup>158</sup> However, this opportunity was not taken

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<sup>155</sup> cf L Gullifer ‘Quasi-security Interests: Functionalism and the Incidents of Security’ in I Davies (ed) *Issues in International Commercial Law* (Aldershot: Ashgate, 2005) ch 1 for an overview of the various sides of the debate.

<sup>156</sup> *ibid* at 28-29. Gullifer was not referring to security over IPRs, but it is suggested the point remains valid.

<sup>157</sup> See above n 8.

<sup>158</sup> Companies Act 2006, s 893.

up when the reforms of April 2013 were implemented.<sup>159</sup> Even if it were so taken, mere information sharing would not resolve the conceptual difficulties within the current system, nor would it resolve the problems inherent in the current registration requirements.

A preferable solution would be a single unified register. As Tosato correctly notes, there are no overwhelming ontological reasons against the use of a single register.<sup>160</sup> One possible problem concerns the prohibition against formality requirements for copyright under the Berne Convention for the Protection of Literary and Artistic Works 1971, Article 5(2).<sup>161</sup> It is unclear as to whether Article 5(2) extends as far as formalities governing the operation of a secured transactions system,<sup>162</sup> and academic analyses appear to have overlooked this issue.<sup>163</sup> Nevertheless, the Article 5(2) prohibition is not absolute. First, it only applies to international works; domestic works may face domestic formalities.<sup>164</sup> Second, it does not extend to all

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<sup>159</sup> The Companies Act 2006 (Amendment of Part 25) Regulations 2013, SI 2013/600, Sched 2 para 3(2) updated the Companies Act 2006, s 893 to take into account the changes wrought by the Regulations. However these Regulations were not concerned with the registration: see Beale, Bridge, Gullifer and Lomnicka *The Law of Security and Title-Based Financing*, above n 9 at paras 9.21 fn 54; 10.02; 10.69 (noting that the intention to do so in the future remains). The key test will be satisfying the Secretary of State ‘that appropriate information-sharing arrangements have been made’: Department of Business, Innovation & Skills ‘Government Response: Consultation on Registration of Charges Created by Companies and Limited Liability Partnerships’ (December 2010) at <http://tinyurl.com/qye687e> at para 26. This however may be ‘is unlikely to find favour with the bureaucracy’: Burrell and Handler ‘The PPSA and Registered Trade Marks’, above n 75 at 602.

<sup>160</sup> Tosato ‘Security interests over intellectual property’, above n 6 at 101-102.

<sup>161</sup> See eg Tosato ‘Security interests over intellectual property’, above n 6 at 102.

<sup>162</sup> S von Lewinski *International Copyright Law and Policy* (Oxford: OUP, 2008) at para 5.56. Von Lewinski also suggests (at para 5.57) that ‘[r]egistration requirements regarding assignment and licences may raise doubts under certain circumstances’, but without relevant supporting authority (what is cited concerns the creation of rights rather than security interests per se). See also S Ricketson and J Ginsburg *International Copyright and Neighbouring Rights: The Berne Convention and Beyond* (Oxford: OUP, 2nd ed, 2006) at para 6.103: ‘formality’ under Article 5(2) merely concerns the bringing of a right into existence.

<sup>163</sup> There is no substantive discussion of this issue in Ricketson and Ginsburg *International Copyright and Neighbouring Rights*, above n 162, or von Lewinski *International Copyright Law and Policy*, above n 162. Cf P Goldstein and PB Hugenholtz *International Copyright: Principles, Law, and Practice* (Oxford: OUP, 3rd ed, 2012) at 273: a priority dispute between transferees of the same copyright interest ‘will inevitably be resolved on a country-by-country basis. From a transactional perspective, the problem with priorities arises not so much from the variety in national approaches as it does from the general absence of systematic methods for recording transfers and establishing priorities between competing claimants to the same interest.’

<sup>164</sup> See eg von Lewinski *International Copyright Law and Policy*, above n 162 at para 5.55; Goldstein and Hugenholtz *International Copyright*, above n 163 at 224.

cognate formalities, such as those requiring transfers of rights to be evidenced in writing.<sup>165</sup> The key is recognizing that ‘the Berne Convention does not declare that member states may not *institute* a system of formalities; it prohibits making enjoyment and exercise of copyright in non-domestic works subject to them.’<sup>166</sup> The acceptability of requiring compliance with formalities in order to gain more than a minimal level of protection, such as obtaining evidential benefits in litigation from registration,<sup>167</sup> and the compatibility of ‘national laws that encourage voluntary provision of information that facilitates lawful use and licensing of works’,<sup>168</sup> suggests that a unitary security interests register covering *inter alia* copyright would not infringe Article 5(2).<sup>169</sup>

Moreover, there are also positive justifications for a unitary registry. Arguably a single register of security interests over IPRs would be beneficial in itself,<sup>170</sup> and as already noted, the conceptual difficulties with the current regime would be substantially reduced. A more compelling, practical justification is also perhaps the simplest: there would be a reduction in search costs (and corresponding reductions in insurance costs against the failure of searches) for those wishing to identify the existence of security interests over IPRs in a world of integrated goods.<sup>171</sup> A more radical approach may to simply consider, as Mooney suggests, a global

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<sup>165</sup> Ricketson and Ginsburg *International Copyright and Neighbouring Rights*, above n 162 at para 6.105, and n 322 citing F Schönherr ‘On the Interpretation of Article 5(2) of the Berne Convention: Taking as an Example the Greek Antipiracy Law of July 15, 1980’ [1981] Copyright 294 at 297 (noting that member states’ failure to object to author-protective contract formalities such as collecting society membership requirements is a ‘subsequent practice’ illustrating how Article 5(2) should be interpreted).

<sup>166</sup> Ricketson and Ginsburg *International Copyright and Neighbouring Rights*, above n 162 at para 6.107. Thus, as noted (at para 6.108) registers of orphan works (see further below n 173) are acceptable.

<sup>167</sup> *ibid.*

<sup>168</sup> *ibid.*

<sup>169</sup> cf Mann ‘Secured Credit and Software Financing’, above n 46 at 150 fn 56: as the US adheres to the Berne Convention, ‘registration [of copyright] has become little more than an archaic formality, providing no important substantive benefits to the copyright holder (aside from the ability to grant a security interest under the Copyright Act).’

<sup>170</sup> Davies ‘Technology-based small firms’, above n 4 at 324; Murphy and Ward ‘Proposal for a Centralized and Integrated Registry’, above n 43 at 298.

<sup>171</sup> Of course, a suitable register would have to operate with minimal delays. Cf Lipton ‘Security Interests in Intellectual Property’, above n 11 at 290 fn 43: it can take anywhere between four and nine months to register a

security interests regime for all types of assets, along the same lines as the Cape Town Convention covering mobile equipment; this is radical only in the sense of jurisdictional reach rather than conceptual coverage.<sup>172</sup>

It is acknowledged that what is being recommended is merely a very broad suggestion for a unified register. Whatever happens (whether a single register for goods and IPRs, or an integration of distinct registers), it is essential to take particular care with the form and operation of such a register.<sup>173</sup> However, rather than attempting to construct a full-scale proposed single register (which would probably double the length of this article), two specific aspects which would need to be covered in any reformed system will instead be analysed: the role of purchase money security interests (PMSIs), and the protection available for third parties. These issues give rise to issues peculiar to integrated goods. For PMSIs the question arises as to what exactly is being purchased: the tangible or intangible or both? Does a PMSI generate “super-priority”? If a PMSI could exist over software acquired to enhance integrated goods, what does that really mean in an era of upgrading? The protection for third parties is an even more pressing issue. Purchasing integrated goods does not necessarily pass control (let alone ownership) of the software that makes the integrated goods work, nor would it necessarily alter security interests over the IPRs over other aspects which make the goods integrated (which of course go beyond

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security interest in the US copyright register; Davies ‘Technology-based small firms’, above n 4 at 324: in the English system a delay of up to three months is possible, requiring financiers to ‘take a leap of faith’

<sup>172</sup> CW Mooney ‘The Cape Town Convention’s Improbable-but-Possible Progeny Part One: An International Secured Transactions Registry of General Application’ (2014) 55 Va J Int L 1. Mooney’s suggestion is laudable, although he is, unfortunately, willing (at 12) to allow for discrete treatment for IPRs.

<sup>173</sup> cf Murphy and Ward ‘Proposal for a Centralized and Integrated Registry’, above n 43 at 359-362 (outlining three models of an IP register for security interests). It would also be important to integrate such a registry with registers on orphan works, in light of the transience of digital information. See eg M Favale, F Homberg, M Kretschmer, D Mendis and D Secchi, *Copyright, and the Regulation of Orphan Works: A comparative review of seven jurisdictions and a rights clearance simulation* (2013) at <http://www.ipo.gov.uk/ipresearch-orphan-201307.pdf>; The Copyright and Rights in Performances (Certain Permitted Uses of Orphan Works) Regulations, SI 2014/2861; The Copyright and Rights in Performances (Licensing of Orphan Works) Regulations, SI 2014/2863. For arguments against registers of IPRs, see eg A Bell and G Parchomovsky ‘Of Property and Information’ (2015) 116 Colum L Rev 237.

software and copyright). Looking at the impact of and effect on third parties evidences the flaws of multiple registration regimes often not designed for integrated goods in the digital era.

### *Purchase money security interests and IPRs*

Retention of title clauses, which arguably mitigate the need for a specific PMSI rule in English law, generally do not occur with IP transactions.<sup>174</sup> If English law is to be reformed, then there needs to be a coherent PMSI rule for IPRs. The US Article 9 regime can provide a useful basis for reform,<sup>175</sup> but as will become clear the UNCITRAL approach is potentially more appropriate for integrated goods.

Under the US system PMSIs have priority over prior perfected security interests, regardless of any after-acquired property clauses. This is justified as PMSIs involve creditors giving new value enabling debtors to obtain a new asset.<sup>176</sup> Contrary to the perfection-by-filing approach of Article 9,<sup>177</sup> PMSIs are generally perfectible by possession, but the intangible nature of IPRs renders this approach moot,<sup>178</sup> and thus PMSIs in IPRs can only be perfected by notice-filing.<sup>179</sup>

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<sup>174</sup> R Boadle ‘A purchase money security interest in UK law?’ [2014] LMCLQ 76, 89.

<sup>175</sup> See generally K Meyer ‘A Primer on Purchase Money Security Interests under Revised Article 9’ (2001) 50 Kan L Rev 143; T Jackson and A Kronman ‘Secured Financing and Priorities among Creditors’ (1979) 88 Yale LJ 1143. Boadle ‘A purchase money security interest in UK law?’, above n 174 at 96 briefly considers the Australian Personal Property Securities Act 2009 (Cth) approach. For further analysis of the Australian system, see eg Burrell and Handler ‘The PPSA and Registered Trade Marks’, above n 75.

<sup>176</sup> Consequently, one difficulty common to PMSIs of tangible and intangible property is that a later financier has to demonstrate that they have given new value that was in fact used: HR Weinberg and WJ Woodward, Jr ‘Easing Transfer and Security Interest Transactions in Intellectual Property: An Agenda for Reform’ (1990-91) 79 Ky LJ 61 at 111.

<sup>177</sup> The party will file a UCC-1 form, ie a financing statement, at the relevant state office. The relevant provisions on filing are at UCC §9-401–§9-403.

<sup>178</sup> Weinberg and Woodward ‘Easing Transfer and Security Interest Transactions’, above n 176 at 112. This may have been the result of the drafters of Article 9 thinking that PMSIs in general intangibles would be unlikely: see Weinberg and Woodward, at 110 fn 207 (citing Gilmore *Security Interests in Personal Property* vol 2, above n 137 at §29.5; G Gilmore ‘The Purchase Money Priority’ (1962-63) 76 Harv L Rev 1333, 1372). UCC §9-102(a)(42) defines a general intangible as ‘any personal property, including things in action ... and software.’ Official Comment 5(d) expands on this: “‘General intangible’ is the residual category of personal property, including things in action, that is not included in the other defined types of collateral. Examples are various categories of intellectual

However, revised Article 9 potentially limits the availability of PMSIs for IPRs. Article 9 previously defined a PMSI as a security interest ‘to the extent that it is: ... (b) taken by a person who by making advances or incurring an obligation gives value to enable the debtor to acquire rights in or use of the collateral if such value is in fact so used.’<sup>180</sup> However, revised Article 9 defines purchase money collateral as ‘goods or software that secures a purchase money obligation incurred with respect to that collateral’.<sup>181</sup> This obviously excludes IPRs that cannot come within the definition of ‘software’,<sup>182</sup> which is a considerable problem.<sup>183</sup> Furthermore, UCC §9-103(c) states that a security interest over software can be a PMSI, but ‘[t]he software must be acquired by the debtor in a transaction integrated with the transaction in which the debtor acquired the goods, and the debtor must acquire the software for the principle purpose of using the software in the goods.’<sup>184</sup> This distinction appears to be based on a policy decision, resting on the grounds that parties can negotiate between themselves,<sup>185</sup> and that the ‘marketplace’ had not indicated a need for PMSIs outside of goods.<sup>186</sup> The effect is that an IPR holder, by means of licensing agreements, can prohibit licensees transferring interests in the IP product to a lender.<sup>187</sup>

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property ... As used in the definition of “general intangible,” “things in action” includes rights that arise under a license of intellectual property, including the right to exploit the intellectual property without liability for infringement. ... “software” is a “general intangible” for purposes of this Article.’ It therefore appears that IPRs can be subject to an Article 9 security interest, though cf text following n 180.

<sup>179</sup> For competing judicial approaches to the role of filing PMSIs over IPRs, see *In re Avalon Software, Inc* 209 BR 517 (Bankr D Ariz 1997) and *In re World Auxiliary Power Co*, n 138 above.

<sup>180</sup> UCC §9-107 (old).

<sup>181</sup> UCC §9-103(a)(1).

<sup>182</sup> UCC §9-102(a)(76): ““Software” means a computer program and any supporting information provided in connection with a transaction relating to the program. The term does not include a computer program that is included in the definition of goods.”

<sup>183</sup> See eg L Brennan ‘Financing Intellectual Property under Revised Article 9: National and International Conflicts’ (2001) 23 *Hastings Communication and Ent LJ* 313 at 436-440.

<sup>184</sup> UCC §9-103, Official Comment 5.

<sup>185</sup> Weise ‘The Financing of Intellectual Property under Revised UCC Article 9’, above n 141 at 1103.

<sup>186</sup> *ibid* at 1104.

<sup>187</sup> Mann ‘Secured Credit and Software Financing’, above n 46 at 175-176.

What this really shows though is not that PMSIs cannot apply to IPRs; rather it shows that difficulties with PMSIs and IPRs are merely a function of the wider security interests regime. If there is a coherent system of registration (which would be most effectively achieved through a unified register covering goods and IPRs), then determining the priority of PMSIs over IPRs, based on the records, will not be challenging. The only substantive difficulty is whether to take a broad approach to PMSIs, which does not exclude certain types of IPRs (as seems to be the case with security interests in general under Article 9).<sup>188</sup> It is at this point that the UNCITRAL Supplement can be usefully considered.

Generally speaking, the Supplement allows acquisition security interests, ie PMSIs, over IPRs, but direct transposition of the provisions in the Guide on acquisition financing may not always be viable.<sup>189</sup> Some legal systems may provide for an acquisition security interest in IPRs, specifically, copyright over software, where the software was embedded in goods which themselves were subject to an acquisition security interest.<sup>190</sup> Other legal systems, specifically civilian systems, may provide for an acquisition security interest over IPRs in the form of a retention of title clause or hypothec. Yet others would provide for an acquisition security interest in the form of a fixed charge, floating charge, or mortgage.<sup>191</sup> In order to develop a system

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<sup>188</sup> There may be potential difficulties with regard to proceeds, for which see eg Weinberg and Woodward 'Easing Transfer and Security Interest Transactions', above n 176 at 114-115; Lipson 'Remote Control', above n 128 at 1374: 'The mobility of [digital information] ... expands the reach of proceeds beyond anything contemplated to date.' *In re S & J Holdings Corp* 39 UCC Rep Serve 668 at 669 (Bankr SD Fla 1984) decided that royalties from the use of collateral (video games machines) were deemed not to be proceeds (to which the secured party could follow) as they were the result of use (and not sale) of the collateral (following the logic of *In Re A E I Corp* 11 Bankr 97 at 102 (Bankr ED Pa 1981) (security interest in machinery and proceeds did not extend to rental payments from lease of the machinery)). In *In re Transportation Design & Technology, Inc*, above n 137, a patent was held not to be proceeds of a patent application. Recent developments such as the revision of Article 9 (discussed in Lipson 'Remote Control', above n 128 at 1372-1378) raise further questions about the relationship between IPRs and proceeds. See further eg Lipson 'Financing Information Technologies', above n 1.

<sup>189</sup> UNCITRAL Supplement, above n 120 at [255]-[256].

<sup>190</sup> This would appear to be the US Article 9 system.

<sup>191</sup> This would appear to be the English system.

whereby acquisition security over IPRs would be acceptable, a number of issues would need to be clarified, essentially by legislative fiat.<sup>192</sup>

The obvious clarifications would be explicit legislative acceptance of PMSIs over IPRs, alongside any special rules negating possessory aspects otherwise relevant to PMSIs. Two other positions on acquisition security over IPRs were reached. First, ‘States could adopt either a unitary or a non-unitary approach to acquisition financing’.<sup>193</sup> This replicates the approach in the Legislative Guide, whereby acquisition finance may operate either under the non-unitary method (ie the specific types of security interests, such as a pledge or a mortgage, are retained) or the unitary method (whereby the name of the security interest has no impact).<sup>194</sup> Obviously a non-unitary approach would do nothing to resolve the identified problems with English law.<sup>195</sup> The second position is the need to ‘develop appropriate distinctions between the acquisition financing of the intellectual property right itself and the acquisition financing of a licence or sub-licence of that intellectual property right.’<sup>196</sup> Here, the Supplement suggests that priority disputes over royalties, in particular the risk faced by licensors that the secured creditor of a licensee will take priority, are best left to be resolved by means of contractual agreement in order to maintain parity of treatment of tangible and intangible assets.<sup>197</sup> This is not ideal, as difficulties may arise in this process qua the licensors and licensees, but these difficulties are outweighed by the benefits that this system offers for third party purchasers of integrated goods, which are discussed below.

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<sup>192</sup> UNCITRAL *Supplement*, above n 120 at [257].

<sup>193</sup> *ibid.*

<sup>194</sup> UNCITRAL *Legislative Guide*, above n 119 at [111]. See Recommendations 176-186 for the unitary approach, and Recommendations 187-202 for the non-unitary approach.

<sup>195</sup> cf UNCITRAL *Supplement*, above n 120 at [280] recognising that problems may arise if states adopt one approach for tangible assets and the other approach for IPRs.

<sup>196</sup> *ibid* at [257].

<sup>197</sup> *ibid* at [272].

Further issues that were considered were ‘third-party effectiveness and priority of an acquisition security right in intellectual property; (b) the priority of a security right registered in an intellectual property registry; and (c) the priority of a security right in proceeds of encumbered intellectual property.’<sup>198</sup> The manner in which these issues are explored reinforces the approach taken by UNCITRAL, whereby IP is treated as distinct and not necessarily subject to full integration with goods.<sup>199</sup> Nevertheless, this is not overly problematic, due to the Supplement’s explicit recognition that the primary purpose for which the IPR is held should guide analysis. Thus transactions of IPRs by those who hold them for disposition will be considered transactions in the ordinary course of business.<sup>200</sup> With this background policy acquisition security interests over IPRs would take priority over prior (all-asset) security interests provided that the acquisition interest was registered within a short time period (for cases where the IPR was acquired not for use, but for disposition, the grantee of the acquisition security interest would also have to notify the holders of prior security interests);<sup>201</sup> this being a direct transposition of the approach taken with tangible assets. However, the priority rules of any specific IP security interests regime would take precedence: the validity, effect and priority of an acquisition security interest would depend on whether the specialised regime allows for such interests.<sup>202</sup> If there is no such divergence between IP and other security regimes, then UNCITRAL provides Recommendation 247:<sup>203</sup>

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<sup>198</sup> Ibid at [258].

<sup>199</sup> Ibid at [261]: ‘In adapting the law recommended in the Guide to intellectual property rights, the expression “sale, lease or license” should also be adapted to fit an intellectual property context in a manner that would be consistent with law relating to intellectual property.’

<sup>200</sup> Ibid at [262].

<sup>201</sup> Ibid at [263]. This extent of this time period would be defined by the relevant implementing state.

<sup>202</sup> Ibid at [264] – [268].

<sup>203</sup> Ibid at 124 (would be Recommendation 186bis in the Guide).

The law should provide that the provisions on an acquisition security right in a tangible asset also apply to an acquisition security right in intellectual property or a licence of intellectual property. For the purpose of applying these provisions:

(a) Intellectual property or a licence of intellectual property:

(i) Held by the grantor for sale or licence in the ordinary course of the grantor's business is treated as inventory; and

(ii) Used or intended to be used by the grantor for personal, family or household purposes is treated as consumer goods; and

(b) Any reference to:

(i) Possession of the encumbered asset by the secured creditor does not apply;

(ii) The time of possession of the encumbered asset by the grantor refers to the time the grantor acquires the encumbered intellectual property or licence of intellectual property; and

(iii) The time of the delivery of the encumbered asset to the grantor refers to the time the grantor acquires the encumbered intellectual property or licence of intellectual property.

The importance of this recommendation in terms of being able to deal with the problems of integrated goods cannot be understated. The key is in the deeming of IP *and* licences of IP as being the same as inventory (or consumer goods). This would entail protection for those who acquire integrated goods in the ordinary course of business against claims made by secured creditors of IPRs holders, just as there is protection for those who take in the ordinary course of

business as against secured creditors of tangible goods per se. This approach can effectively account for the interconnection between IP and tangible things, enabling the development of a more coherent legal regime for financing integrated goods in a digital world.

### *Third party purchasers*

If goods are purchased, unauthorised use of a third party IPR covering those goods will breach section 12 of the Sale of Goods Act 1979.<sup>204</sup> Such use may lead to an injunction preventing the sale of the goods, and possibly a *Norwich Pharmacal* order requiring the seller to disclose its suppliers.<sup>205</sup> This may be problematic for defendants involved in close-knit supply chain relationships,<sup>206</sup> or where there are unresolved disputes over the validity of IPRs, and there may be cost implications in bringing such actions where there are multiple users of the IPRs.<sup>207</sup> Fundamentally, there will be complications if there are multiple different IPRs covering various different aspects of the production of the goods, or where there is complex and substantial integration of goods and IPRs.<sup>208</sup> Arguably, the law should be clarified in order to protect the final purchaser against two possibilities: first, as against the financier who attempts to follow their security interest over an IPR through to the purchased integrated goods; second, as against an IPR holder who wishes to prevent the final purchaser from dealing with the integrated goods. The second possibility has been discussed elsewhere,<sup>209</sup> and need not be discussed here. As to

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<sup>204</sup> See generally Thomas ‘Goods with embedded software’, above n 24.

<sup>205</sup> *Norwich Pharmacal Co v Customs and Excise Commissioners* [1974] AC 133.

<sup>206</sup> *Wilko Retail Ltd v Buyology Ltd* [2014] EWHC 2221 (IPEC) at [27]-[29] (trade mark infringement). See also *Jade Engineering (Coventry) Ltd v Antiference Window Systems Ltd* [1996] FSR 461 (ChD) (design rights infringement).

<sup>207</sup> *Wobben Properties GmbH v Siemens plc* [2014] EWHC 3173 (Pat). See also *Smith Kline and French Laboratories Ltd v Global Pharmaceuticals Ltd* [1986] RPC 394 (CA).

<sup>208</sup> cf Lipson ‘Remote Control’, above n 128 at 1360: ‘The relationship between intellectual property protection and negotiability is not well understood.’

<sup>209</sup> Thomas ‘Goods with embedded software’, above n 24 at 176-177 (if goods have embedded software then IPR holders should be prohibited from following through to final innocent purchasers, and will be limited to a remedy as

the first possibility, it is suggested that the secured party should be prevented from following the IPRs, if the IPRs are attached to goods, where the goods have been acquired by a good faith purchaser for value and without notice. Their remedy should come solely from the party as against whom the secured party made the risk assessment vis-à-vis the secured loan: this will be a vendor rather than the final purchaser. To a degree this process already exists for copyright:

A licence granted by a copyright owner is binding on every successor in title to his interest in the copyright, except a purchaser in good faith for valuable consideration and without notice (actual or constructive) of the licence or a person deriving title from such a purchaser; and references in this Part to doing anything with, or without, the licence of the copyright owner shall be construed accordingly.<sup>210</sup>

However, this provision could be construed narrowly. The reference to constructive notice is problematic. It may be difficult, in an age where IP infringement is part of the general public consciousness, to suggest that a consumer, let alone a commercial actor, could claim absence of constructive notice of a pre-existing licence. There is also the long-standing commercial distrust of constructive notice,<sup>211</sup> which raises doubts about the appropriateness of this method of

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against the initial vendor which can be satisfied by damages); S Balganesch 'Copyright and Good Faith Purchasers' (2016) 104 Cal L Rev (forthcoming) (available at <http://ssrn.com/abstract=2568029>) (arguing in favour of a voidable title rule in US copyright law). Cf MBM Loos and C Mak 'Remedies for Buyers in Case of Contracts for the Supply of Digital Content' (Amsterdam Law School Legal Studies Research Paper No. 2012-71, 2012) at <http://ssrn.com/abstract=2087626> (recommending greater clarity on the transfer of ownership rights over digital content). See also MA Lemley 'IP in a World Without Scarcity' (Stanford Public Law Working Paper No. 2413974, 24 March 2014) at <http://dx.doi.org/10.2139/ssrn.2413974> (the reduced relevance of scarcity brought about by technological change may lead to reactions by IPR holders, such as attempts to control goods).

<sup>210</sup> Copyright, Designs and Patents Act 1988, s 90(4). See also s 91(3).

<sup>211</sup> *Kettlewell v Watson* (1882) LR 21 ChD 685 at 704 (Fry J); *Manchester Trust v Furness* [1895] 2 QB 539 (CA) at 545 (Lindley LJ); *Worcester Works Finance Ltd v Cooden Engineering Co Ltd* [1971] 3 WLR 661 (CA) at 667 (Lord Denning MR).

protecting certain rights.<sup>212</sup> Another problem concerns the fact that this particular provision is subject to the practical possibility of exclusive licences. If a copyright holder grants an exclusive licence, then the ‘licensee under an exclusive licence has the same rights against a successor in title who is bound by the licence as he has against the person granting the licence.’<sup>213</sup> It is easy to see how this particular provision essentially renders the protection for good faith purchasers meaningless,<sup>214</sup> especially when the difficulties of extending such “first sale” or “exhaustion” doctrines to digital IPRs are recognised.<sup>215</sup> The limited capacity of purchasers to avoid either the private ordering restrictions of licences, or the public policy limitations of digital exhaustion, is further subjected to rather draconian risks of punitive destruction of infringing goods.

Directive 2004/48/EC on Enforcement of Intellectual Property Rights,<sup>216</sup> which sees the protection of IPRs as a ‘paramount status’,<sup>217</sup> potentially covers financiers as well as IPR

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<sup>212</sup> See also J de Lacy ‘Reflections on the Ambit and Reform of Part 12 of the Companies Act 1985 and the Doctrine of Constructive Notice’ in J de Lacy (ed) *The Reform of United Kingdom Company Law* (London: Cavendish Publishing Ltd, 2002) 333 at 369-380 (demonstrating the extremely weak grounds for a rule of constructive notice concerning registered charges).

<sup>213</sup> Copyright, Designs and Patents Act 1988, s 92(2).

<sup>214</sup> Townend *Using Intellectual Property as Security*, above n 5 at 34.

<sup>215</sup> See eg *Capitol Records LLC v ReDigi, Inc* 934 FSupp2d 640 (DC SD NY 2013). Compare [2012] Case C-128/11 *UsedSoft GmbH v Oracle International Corp* and [2015] Case C-419/13 *Art & Allposters Int'l BV v Stichting Pictoright*. See further Thomas ‘Sale of Goods and Intellectual Property’, above n 24 at 27-30; Mulligan (above n 58); Mann ‘Secured Credit and Software Financing’, above n 46 at 151-153. The ineffectiveness of first sale or exhaustion doctrines is also demonstrated in the non-digital arena: see eg *Bowman v Monsanto Co* 569 US \_\_; 133 SCt 1761 (2013) (farmer cannot reproduce seeds covered by a patent). See generally A Perzanowski and J Schultz ‘Reconciling Personal & Intellectual Property’ (2015) 90 Notre Dame L Rev 1211; A Perzanowski and J Schultz ‘Legislating Digital Exhaustion’ (2015) 28 Berkeley Tech LJ 1535; S Reis ‘Toward a “Digital Transfer Doctrine?” The First Sale Doctrine in the Digital Age’ (2015) 109 Northwestern U L Rev 173; A Perzanowski and J Schultz ‘Digital Exhaustion’ (2011) 58 UCLA L Rev 889. Cf JF Duffy and R Hynes ‘Statutory Domain and the Commercial Law of Intellectual Property’ (2016) 102 Va L Rev 1, though Duffy and Hynes do not consider *Capitol Records* and its implications in this area.

<sup>216</sup> Directive 2004/48/EC on Enforcement of Intellectual Property Rights. Implemented by virtue of The Intellectual Property (Enforcement) Regulations 2006, SI 2006/608. Intellectual Property (Enforcement etc) Regulations 2006/1028, Explanatory Note [1]: Directive 2004/48/EC was implemented in Scotland but not England and Wales as *Norwich Pharmacal*, above n 205, was deemed sufficient to meet the requirements of the Directive. In [2105] Case C-580/13 *Coty Germany GmbH v Stadtsparkasse Magdeburg* it was held that national banking secrecy laws could not override the obligation in Directive 2004/48, such that banks cannot unconditionally refuse to give information concerning IPR infringements to IPR holders.

<sup>217</sup> Directive 2004/48/EC, Preamble (3).

holders.<sup>218</sup> Although apparently restricted to commercial dealers in infringing goods, this is not entirely certain,<sup>219</sup> and enforcement ‘where appropriate’ may involve destruction of goods in which infringing IPRs are embedded,<sup>220</sup> or the seizure of infringing goods for evidential reasons or to ‘prevent their entry into or movement within the channels of commerce’.<sup>221</sup> It may even be that goods (‘materials and implements’) used to create the infringing goods, even if not themselves infringing goods, can be destroyed or otherwise removed from commerce,<sup>222</sup> subject to a proportionality test.<sup>223</sup> This is an overly restrictive approach, which further entrenches the rights of IPRs holders and their financiers, at the expense of third parties who may not know and certainly will not be able to control the creation and operation of such interests. It also attempts to maintain a division between tangible and intangible assets which is likely to become technologically and commercially unfeasible. For certain integrated goods this could be devastating. Consider the risks for 3D printers making trademarked objects using a program acquired through sub-optimal means. If the program breaches copyright the loss then the printer is at risk. If the breach concerned the trademark, then even if the program did not breach copyright the printer would still be at risk. Furthermore, even if the IPRs are all valid, a secured financier may decide to exercise control over the IPRs in order to resolve an unrelated issue with the producers of the IPRs protected elements, which could then impact on the 3D printers.

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<sup>218</sup> *ibid* Preamble (18): ‘... also persons who have a direct interest and legal standing in so far as permitted by and in accordance with the applicable law’; Article 4(1)(b): ‘all other persons authorised to use those rights, in particular licensees’, are able to seek application for preventative measures.

<sup>219</sup> *ibid* Preamble (14): ‘The measures provided for ... need to be applied only in respect of acts carried out on a commercial scale. ... Acts carried out on a commercial scale are those carried out for direct or indirect economic or commercial advantage; this would *normally* exclude acts carried out by end-consumers acting in good faith.’ (Emphasis added). See also Preamble (24).

<sup>220</sup> Directive 2004/48/EC, Preamble (24).

<sup>221</sup> *ibid* Article 7(1) (evidence); Article 9(1)(b) (entry into commerce).

<sup>222</sup> *ibid* Article 10(1).

<sup>223</sup> *ibid* Article 10(3); *Cartier International AG v British Sky Broadcasting* [2014] EWHC 3354 (Ch).

Instead, the approach taken by UNCITRAL is worth considering. One of the key objectives of the Guide (and thus the Supplement) is '[t]o enable interested parties to determine the existence of security rights in intellectual property in a clear and predictable way'.<sup>224</sup> However, this is only one of number of objectives, all of which bar this particular instance are focused on the relationship between grantor and grantee of a security interest. Thus, whilst there is recognition of the relationship third parties (as 'interested parties') have to the security interest, there is seemingly no overriding policy basis for supporting third parties. Indeed, what this objective reveals is that the third party should merely have an inchoate capability to determine the existence of a security interest. There is nothing in the way of a policy or other normative basis running through the UNCITRAL scheme supporting the idea that a third party should be able to acquire or otherwise deal with goods and/or IPRs free of a pre-existing security interest. It may be countered that the whole UNCITRAL scheme rests on registration and thus swift and cheap access to accurate information about encumbrances. Nevertheless, such an aim may be rendered less effective by the presence of multiple registration regimes for IPRs as distinct from a general security interest register.

The Supplement sets out that a security interest in tangible goods would not extend (without agreement between the parties) to IPRs attached to those goods, and vice versa.<sup>225</sup> This reduces the problems ordinarily arising from focusing on the grantor and grantee of a security interest at the expense of third parties. However, this approach is contingent on parties further up a chain of transactions agreeing to limit their rights.<sup>226</sup> Thus a more radical approach is necessary in

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<sup>224</sup> UNCITRAL *Supplement*, above n 120 at [47].

<sup>225</sup> *ibid* at 52, Recommendation 243 (which would be Recommendation 28bis in the Guide).

<sup>226</sup> This is not impossible: patent pledges may have this effect. See eg CD Assay 'Patents as Informational Tools' in JL Contreras and M Jacobs (eds) *Patent Pledges: Global Perspectives on Patent Law's Private Ordering Frontier* (New York, NY: Edward Elgar, 2016) (forthcoming) at <http://ssrn.com/abstract=2607612>.

order to provide purchasers of integrated goods with the capacity to acquire goods for use or resale without potential unknowable and uncontrollable encumbrances over the intangible aspects of such goods. This suggestion requires consideration of Article 9-321 of the UCC, which was added during the 2001 revision of Article 9. It states:

(a) “licensee in ordinary course of business” means a person that becomes a licensee of a general intangible in good faith, without knowledge that the license violates the rights of another person in the general intangible, and in the ordinary course from a person in the business of licensing general intangibles of that kind. A person becomes a licensee in the ordinary course if the license to the person comports with the usual or customary practices in the kind of business in which the licensor is engaged or with the licensor's own usual or customary practices.

(b) A licensee in ordinary course of business takes its rights under a nonexclusive license free of a security interest in the general intangible created by the licensor, even if the security interest is perfected and the licensee knows of its existence.

Official Comment 2 to this section states that these rules are analogous to UCC §9-320 (which provides a buyer in ordinary course exception for purchasers of goods covered by a security interest), and that the rule in UCC §9-321(b) ‘reflects the expectations of the parties and the marketplace: a licensee under a nonexclusive license takes subject to a security interest unless the secured party authorizes the license free of the security interest or other, controlling law such

as that of this section (protecting ordinary-course licensees) dictates a contrary result.’<sup>227</sup> In general this appears to be a valuable protection for licensees, not least because ‘holders of “off-the-shelf” nonexclusive licenses likely have reasonable expectations that (as long as they perform their obligations) they will continue to have the right to use the license even if their licensor loses *its* rights as a result of a foreclosure by the licensor’s secured party.’<sup>228</sup> Of course, it is also important to note that the limitation to licensees naturally excludes those who acquire by sale.<sup>229</sup> Additionally, it has been argued that the default position should be that purchasers in the ordinary course of business should be able to acquire not just the right to use IPRs when integrated with goods, but also the right to treat such IPRs as their own.<sup>230</sup> It is suggested that the same logic should apply to licensees even if they take under an exclusive license, not least because it appears very easy to introduce what would otherwise be very narrow limitations in order to convert a non-exclusive license into an exclusive license.<sup>231</sup> There are other problems with this limitation to non-exclusive licences. For one it is not clear what is meant by a non-exclusive licence.<sup>232</sup> In addition, there are problems concerning the ‘created by his seller’ limitation in the definition of a licensee in ordinary course of business: this essentially means that if there is a chain of transactions, the final purchaser cannot trump a party higher in the chain as such an interest is not created by his immediate vendor (or licensor).<sup>233</sup> This limitation is

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<sup>227</sup> As for authorization under the UCC, see eg S Thomas ‘The Role of Authorization in Title Conflicts Involving Retention of Title Clauses: Some American Lessons’ (2014) 43 CWLR 29.

<sup>228</sup> Weise ‘The Financing of Intellectual Property under Revised UCC Article 9’, above n 141 at 1097.

<sup>229</sup> cf Lipson ‘Financing Information Technologies’, above n 1 at 1123-24: ‘True, most transactions in information technology assets are currently structured as licenses, not sales. But it is not clear that licensing will always be the only ordinary course disposition of a general intangible.’

<sup>230</sup> Thomas ‘Goods with embedded software’, above n 24.

<sup>231</sup> Weise ‘The Financing of Intellectual Property under Revised UCC Article 9’, above n 141 at 1099-1100.

<sup>232</sup> Lipson ‘Financing Information Technologies’, above n 1 at 1124 (arguing that a non-exclusive license may not be capable of being subject to a security interest).

<sup>233</sup> *ibid* at 1126.

compounded by further restrictions on the licensor's behaviour: he must be in the business of licensing IPRs of the kind at hand.<sup>234</sup>

These limitations have their supporters. For example, Duffy and Hynes suggest it creates an appropriate general-level delineation of commercial and IP law.<sup>235</sup> More substantively, Weise argues that Article 9 favours the secured party in circumstances where the customer (licensee in ordinary course here) is not a direct customer of the debtor, 'not because downstream customers are not worthy of protection but because ... the burden on the secured party to attempt to control a downstream sublicensor outweighs the benefits to the downstream customer.'<sup>236</sup> This is because the secured party is only really able to 'monitor and influence by contract' the behaviour of its borrower,<sup>237</sup> and it 'reflects a balancing of the interests, expectations, and burdens of the various participants.'<sup>238</sup> This analysis deals with non-exclusive licenses, and for exclusive licenses negotiation between the parties will avoid potential problems.<sup>239</sup> Yet this seems to be inherently contradicted by the operational logic of UCC §9-321: 'a secured party financing a licensor would "lose" if the licensor entered into a nonexclusive license agreement with, say, a distributor, who would then "take free" of the secured party's security interest in the licensed general intangible',<sup>240</sup> but 'the distributor would have the right to use the license for so long as it complies with all the terms of the license, including paying all license fees to the secured party.'<sup>241</sup> This second point surely applies in both cases of exclusive and non-exclusive licences, and if so it can be questioned as to what exactly it is that justifies a distinction being made that

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<sup>234</sup> *ibid.* See also Lipson 'Remote Control', above n 128 at 1378-1388.

<sup>235</sup> Duffy and Hynes 'Statutory Domain and the Commercial Law of Intellectual Property', above n 215, especially at 61-64.

<sup>236</sup> Weise 'The Financing of Intellectual Property under Revised UCC Article 9', above n 141 at 1100.

<sup>237</sup> *ibid.* at 1101.

<sup>238</sup> *ibid.*

<sup>239</sup> *ibid.*

<sup>240</sup> *ibid.* at 1102-1103.

<sup>241</sup> *ibid.* at 1103 fn 104.

affects downstream users of IPRs purely on the basis of the exclusivity or otherwise of the license of the immediate disponent of the final disponent of the licensed IPR.

Technological developments render Weise's analysis profoundly troubling. There are real practical problems facing IPRs holders in controlling the use and disposition of integrated goods downstream. However, as the John Dere case indicates,<sup>242</sup> downstream parties suffer corresponding problems of equal if not greater difficulty in effectively controlling or knowing of upstream IPRs.<sup>243</sup> This reality also applies to those who have security over IPRs as much as IPRs holders themselves.<sup>244</sup> Whilst Weise's approach may be a 'perfectly logical allocation of the risks and burdens' in the context of Article 9,<sup>245</sup> this can only be accepted in the context of an Article 9 regime (necessitating contextualisation within the broader matrix of state and federal law concerning security over IPRs) which itself demonstrates a considerable number of flaws, not least in the sense of being incapable of providing a coherent legal framework for integrated goods. Arguably, there is no 'effective accommodation between information property rights law and [the Article 9 system].'<sup>246</sup> Whilst this critique is necessarily founded on the claim that a radical new approach to the integration of IP and tangible goods is necessary in order to deal with the potential problems of 21st century commerce, it surely cannot be a reasonable defence

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<sup>242</sup> Above n 34.

<sup>243</sup> Thomas 'Goods with embedded software', above n 24; Thomas 'Sale of Goods and Intellectual Property', above n 24; Lipson 'Remote Control', above n 128 at 1417.

<sup>244</sup> cf Lipson 'Remote Control', above n 128 at 1388-1411. See also Mann 'Secured Credit and Software Financing', above n 46 at 151: whilst '[c]ommercial-transactions scholars tend to assume that a borrower always has the power to grant a security interest in its assets', IP practitioners 'strongly disfavour[...] transfers by a licensee without the consent of the licensor, even if the transfer is limited to the licensee's rights under the license.' Mann cites, inter alia, *Everex Systems, Inc v Cadtrak Corp (In re CFLC, Inc)* 89 F3d 673 at 679 (9th Cir 1996): 'any license a patent holder granted-even to the smallest firm in the product market most remote from its own would be fraught with the danger that the licensee would assign it to the patent holder's most serious competitor, a party whom the patent holder itself might be absolutely unwilling to license.'

<sup>245</sup> Weise 'The Financing of Intellectual Property under Revised UCC Article 9', above n 141 at 1102.

<sup>246</sup> Nimmer 'Revised Article 9 and Intellectual Property Asset Financing', above n 144 at 289.

to say, in essence, our 20th century regime is acceptable as a means of regulating transactions in 21st century goods.<sup>247</sup>

## CONCLUSION

The various problems with the current English system means ‘relying on intellectual property as security for loans can be more difficult, and more risky, for financiers than dealing with more “traditional” assets as security.’<sup>248</sup> As such, different forms of financing may be preferred.<sup>249</sup> However, ‘[t]he effective creation of security interests in IP may ... be of great importance to the survival of technology-based small firms with otherwise few tangible assets to offer as security.’<sup>250</sup> Similarly, as the US Ninth Circuit Court of Appeals has noted, when ‘software companies don’t attract equity financing like tulips in seventeenth century Holland, these companies will have to borrow more capital. After-acquired software is likely to serve as much of their collateral.’<sup>251</sup>

Fundamentally, ‘[t]he law should not impair the ability of debtors to secure as much or as little of their debts with as much or as little of their existing and future property as they deem appropriate.’<sup>252</sup> As such it could be argued that IP law should be made more flexible and responsive to party autonomy, thus allowing IPRs holders to negotiate varying levels of

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<sup>247</sup> *ibid*: ‘Attitudes and approaches from the commercial world before intangible assets took center stage continue to influence how modern law treats information assets.’

<sup>248</sup> Lipton ‘Security Interests in Intellectual Property’, above n 11 at 306.

<sup>249</sup> Davies ‘Technology-based small firms’, above n 4 at 309-312. For a wider ranging overview of debt financing, see eg Beale, Bridge, Gullifer and Lomnicka *The Law of Security and Title-Based Financing*, above n 9 at ch 2. For analysis of the current state of financing see eg AJ Walters ‘Statutory Erosion of Secured Creditors’ Rights: Some Insights from the United Kingdom’ [2015] *University of Illinois L Rev* 543.

<sup>250</sup> Davies ‘Technology-based small firms’, above n 4 at 314.

<sup>251</sup> *In re World Auxiliary Power Co*, above n 138 at 1132.

<sup>252</sup> SL Harris and CW Mooney ‘A Property-Based Theory of Security Interests: Taking Debtors’ Choices Seriously’ (1994) 80 *Va L Rev* 2021 at 2021-2022.

protection.<sup>253</sup> This would bring IP law closer in nature to security interests and sales law, and would allow for greater market-driven flexibility in negotiating and bargaining over security interests. However, whilst this may benefit debtors and creditors, it arguably would add little if any additional protection to third parties ie purchasers. A more appropriate approach would instead acknowledge the impact of the changes to the relevance of scarcity on IP law: IP law should not be abused to restrict the free flow of information.<sup>254</sup> Davies suggests that the current problems can only be resolved through the ‘emergence of a completely new body of commercial finance law to support the development and exploitation of IP as economic assets.’<sup>255</sup> This makes sense,<sup>256</sup> especially when the lack of coordination between security interests, sales and IP is acknowledged.<sup>257</sup> A new approach would also help avoid the problem that one’s preference for a particular system will depend on whether one is a commercial or IP lawyer.<sup>258</sup>

This new commercial law would have to adapt to the ‘unusual dynamics of software as an asset’,<sup>259</sup> particularly with the growth of integrated goods. A security interests regime for IPRs that is designed for purpose (rather than the current English system) would be better for those who are developing intangible assets that are protected as IPRs, but a new commercial law

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<sup>253</sup> A Bell and G Parchomovsky ‘Reinventing Copyright and Patent’ (2014) 11 Mich L Rev 231.

<sup>254</sup> Lemley ‘IP in a World Without Scarcity’, above n 209. Cf J Fairfield ‘BitProperty’ (2015) 88 S Cal L Rev 805 (technological developments enabling low-cost, accurate, secure and traceable recording of digital transactions will lead to digital scarcity).

<sup>255</sup> Davies ‘Secured Financing of Intellectual Property Assets’, above n 43 at 583; repeated in ‘Technology-based small firms’, above n 4 at 327 and ‘Patent Grants, Signals and Commodification’, above n 43 at 69.

<sup>256</sup> cf Duffy and Hynes ‘Statutory Domain and the Commercial Law of Intellectual Property’, above n 215, arguing for delineation between IP and commercial law.

<sup>257</sup> See eg Haemmerli ‘Insecurity Interests’, above n 139 at 1646 (presenting an amusing hypothetical screenplay, whereby ‘The intellectual property lawyers exchange meaningful glances: “Not that UCC stuff ....” The commercial lawyers look annoyed, as though that have come to the wrong briefing: “Who wants to get into copyright law metaphysics in the middle of a deal?”’).

<sup>258</sup> Ghosh ‘The Morphing of Property Rules’, above n 15 (it depends on one’s perspective on IP: if one states that IPR holders should be protected, then the IP law regime should be preferred); Lipson ‘Financing Information Technologies’, above n 1 at 1106-1107 (noting how ‘one’s practice orientation’, ie whether one is an IP lawyer or a commercial lawyer, will determine whether you will favour Article 9, or the IP solutions).

<sup>259</sup> Mann ‘Secured Credit and Software Financing’, above n 46 at 154.

founded on the integration between goods and IPRs would be better still. This new commercial law could be substantiated by taking what Lipson terms a ‘functional approach’.<sup>260</sup> This takes a dual meaning: first, ‘courts should recognize that the functions of intellectual property law and commercial law are different’, and second, ‘information as collateral should be treated like functionally analogous categories of goods’.<sup>261</sup> Thus whilst IP law concerns rights of ownership (title), secured transactions law is concerned with rights of priority,<sup>262</sup> and the current disconnection between different systems makes it possible for certain parties to ‘exploit the unusual systemic asymmetries endemic to intellectual property financing.’<sup>263</sup> Relying on the current doctrine arguably restricts the potential monetisation of IPRs, not least because of the way it necessitates differential treatment of inherently integrated aspects of a particular asset. Avoiding this requires focusing on the functional nature of the things subject to security interests: ‘information technologies ... will not always function like intangibles have in the past. Instead, information technology assets will often function like tangible goods’.<sup>264</sup> Conversely, tangible goods will begin to function like information technology assets. The ‘most promising’ approach is to consider function and treat such assets as analogous to “normal” collateral.<sup>265</sup> As has been shown, there are potential mechanisms to deal with this reality internal to both the Article 9 and UNCITRAL systems, and they should be drawn upon in any future reform of English law.

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<sup>260</sup> Lipson ‘Financing Information Technologies’, above n 1 at 1141.

<sup>261</sup> *ibid* at 1141-1142.

<sup>262</sup> *ibid* at 1143-1148. At 1104-1105, Lipson correctly notes that IP rules ‘are organized around the creation and maintenance of title in intellectual property ... [and] are not designed to be, and do not function principally as, transactional rules. They create property, but often tell us little about how to dispose of it.’

<sup>263</sup> *ibid* at 1148.

<sup>264</sup> *ibid* at 1149.

<sup>265</sup> *ibid* at 1154.