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Artificial intelligence and intellectual property: Call for Views

British and Irish Law, Education and Technology Association Submission

Prepared on behalf of the British Irish Law Education and Technology Association (BILETA) by: Prof Dinusha Mendis, Associate Prof Guido Noto La Diega, Dr Felipe Romero-Moreno, and Dr Hiroko Onishi

Copyright and Related Rights

Question 2

Is there a need for greater clarity about who is liable when an AI infringes copyright?

Copyright infringement arising from AI, relates to the 'creative output', rather than the 'input' which focuses on the algorithm and software. However, in both cases, identifying the creator is of paramount importance, i.e., in other words, who had responsibility for the creation of the output? Under traditional copyright law, this will be the human creator of a work[1] and in the AI context, can be deemed to be the human operator or developer of the AI application.[2] However, this aspect needs greater clarification; the reason being that to ascertain whether a copyright work has been infringed, it is important to understand who the creator is, i.e., the developer of the algorithm or the AI owner?

Currently, this remains unclear from a copyright perspective.

It would seem that there can be no infringement of AI works also because the requirement of substantiality is closely interwoven with the concept of originality. A claimant needs to prove that the defendant appropriated the author's own intellectual creation.[3] As things stand, unauthorised use of AI works cannot trigger infringement proceedings because there is no 'author's own intellectual creation' to appropriate.

[1] Intellectual Property Office, *Guidance 'Intellectual property offences'* (IPO 2017).
[2] Expert Group on Liability and New Technologies – New Technologies Formation, *Liability for Artificial Intelligence and other emerging digital technologies* (European Union 2019).
[3] *Ladbroke (Football) Ltd v William Hill (Football) Ltd* [1964] 1 W.L.R. 273; Case C-5/08 *Infopaq International A/S v Danske Dagblades Forening* [2009] E.C.R. I-6569

The current UK law, under section 178 of the Copyright, Design and Patent 1988 (as amended) (CDPA 1988), protects computer-generated works which do not have a human creator. However, the section was intended to protect material such as weather maps and outputs from expert systems[4] and was not intended to protect *origina*l literary, dramatic, musical and artistic works such as books, paintings, music and so on, requiring the *author's intellectual creation* has to be demonstrated.[5] In this sense, consideration cannot be given to an *AI application* nor can it be argued that the *original work arises autonomously, without a creator* (legal personality), if originality cannot be reflected through the author's intellectual creation.

There is no need to amend the law on the point because copyright rewards labour and incentives creativity; AI does not work, nor it needs to be incentivized to create works.

A complementary scenario is when AI makes unauthorized use of human-generated works. If an AI works infringes third parties' copyright, it would be problematic to bring infringement proceedings against an AI (e.g. who would be condemned to 10 years' imprisonment for committing a criminal offence under the Copyright, Designs and Patents Act 1988?).[6] Furthermore, recognising AI as 'legal personality' will create an issue from an enforcement perspective, as it will allow an escape route to avoid liability in cases of infringement. A legal status for a robot cannot derive from the 'Natural Persons' model, since the robot would then human rights such as the right to dignity, right to integrity, the right to remuneration etc. Equally, the legal status for a robot cannot derive from the 'Legal Entity' model since it implies the existence of a human persons behind the legal person to represent and direct it.[7]

In other words, in the case of copyright infringement and enforcement, the current inability to identify and bring to justice an individual(s) poses an issue.

[4] Lord Young of Graffham, HC Deb, Vol. 489 (12 November 1987), col. 1476.
[5] Court of Justice 1 March 2012, *Football Dataco v Yahoo! UK, case C-604/10.*
[6] Cf Intellectual Property Office, *Guidance 'Intellectual property offences'* (IPO 2017).
[7] See Thomas Burri, EU is Right to Refuse Legal Personality for Artificial Intelligence (31 May 2018) at https://www.europarl.europa.eu/doceo/document/TA-8-2017-0051_EN.html?redirect#BKMD-12

In this context it should also be pointed out that there has been a call for the recognition of an 'electronic personality' for robots and AI by the European Parliament[8] however this proposition was rejected recently by the EU Expert Group on Liability for New Technologies,[9] and rightly so.

Question 3

Is there a need to clarify existing exceptions, to create new ones, or to promote licensing, in order to support the use of copyright works by AI systems? Please provide any evidence to justify this.

In the UK, the main applicable defence is provided by Section 29A of the CDPA 1988. It covers text and data analysis and is limited to non-commercial research. It should be explored whether better alignment with Article 3 of the Copyright in the Digital Single Market Directive (C-DSM) would be beneficial. Regardless of Brexit, there are strong incentives to maintain regulatory convergence. For example, it is crucial that rightsholders are not allowed to use technological protection measures to prevent defendants from invoking this exception. A starting point could be Article 3(3) C-DSM whereby 'Rightholders shall be allowed to apply measures to ensure the security and integrity of the networks and databases where the works or other subject matter are hosted. *Such measures shall not go beyond what is necessary to achieve that objective*.' An amendment of Section 29A along these lines would make it a more AI-friendly provision.

Conversely, there does not seem to be a need to adopt a broader provision along the lines of Article 4 C-DSM that provides that text and data mining do not need the

[8] European Parliament resolution of 16 February 2017 with recommendations to the Commission on Civil Law Rules on Robotics was rejected https://www.europarl.europa.eu/doceo/document/TA-8-2017-0051_EN.html?redirect#BKMD-12 See also, Guido Noto La Diega, 'The European Strategy on Robotics and Artificial Intelligence: Too Much Ethics, Too Little Security' (2017) 3 European Cybersecurity Journal <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3091563>.

[9] Expert Group on Liability and New Technologies – New Technologies Formation, *Liability for Artificial Intelligence and other emerging digital technologies* (European Union 2019).

rightsholder's permission regardless of any research purposes, including commercial activities. This exception risks giving AI owners carte blanche to use third parties copyright materials without permission. Instead, individual and collective licensing should be the preferable mechanisms to justify the use of copyright works by AI systems.

We are aware that the UK Government declared that they will not implement the C-DSM Directive. However, we believe that at least some of its provisions may constitute a model to follow. Many of them such as the upload filter (Article 17) may not.

At the same time, a wider exception (such as USA's fair use) could assist in dealing with this new technology as was seen in its application to specific case law relating to data mining[10], which demonstrated how it can support many types of technological innovation including AI. A second-best solution could be to state that certain uses of AI qualify for the public interest defence.

Questions 5 and 6

Should content generated by AI be eligible for protection by copyright or related rights?

If so, what form should this protection take, who should benefit from it, and how long should it last?

The two main pillars of copyright law lie in (a) promoting the expression of human creativity and (b) rewarding creators for their creative outputs. For the past 310 years (since the Stature of Ann 1710), it has therefore been associated with the human creative spirit.

[10] Authors Guild v Google Inc 804 F3d 202 (2d Cir 2015); Authors Guild v HathiTrust 755 F3d 87 (2d Cir 2014)

In accordance with the basis of the current law, AI-generated works, where no human creator can be identified as the actual creator of the work, should be excluded from eligibility for copyright protection. Accordingly, AI works are to be regarded as part of the public domain. This line of argument has been confirmed in a number of studies in the field[11] which confirm that no copyright should be attributed to "original" literary, dramatic, musical artistic works that are autonomously generated by AI. This is further backed up by case law which confirms that for originality to exist it must demonstrate *the author's own intellectual creation*[12] requiring creators to reflect their personal touch in the work.[13] In *Football Dataco*,[14] originality was defined as the author's creative ability to make free and creative choice in the selection or arrangement of the contents, thus stamping their personal touch on the database. By definition, an AI-generated work is not its author's own intellectual creation, it does carry their personal touch, and is not the result of free and creative choices.

At the same time, section 178 of the Copyright, Design and Patent 1988 (as amended) (CDPA 1988), protects computer-generated works which do not have a human creator. The section was proposed by Lord Young of Graffham in 1987 and was expected to protect material such as weather maps, output from expert systems, and works generated by AI.[15] It was not designed to protect original literary, dramatic, musical and artistic works such as books, paintings, music and so on. Nor can it protect fully autonomous systems, since it requires the identification of a person who made the necessary arrangements to create the work.[16]

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[11] See, e.g., Ihalainen, *Computer creativity: artificial intelligence and copyright*, in *JIPLP* 2018, IX, 724; Ramalho, *Will Robots Rule the (Artistic) World? A Proposed Model for the Legal Status of Creations by Artificial Intelligence Systems* (13 June 2017), available at https://ssrn.com/abstract=2987757; Bridy, *Coding Creativity: Copyright and the Artificially Intelligent Author,* in *Stan Tech L Rev* 2012, V, 1; Guadamuz, *Do androids dream of electric copyright? Comparative analysis of originality in artificial intelligence generated works*, in *IPQ* 2017, II, 169.
[12] Court of Justice 16 July 2009, *Infopaq*, case C-5/08, in *European Court Reports* 2009, I, 6569, para. 36. See Valenti's comment in *AIDA* 2009, 428 ff., Derclaye, *Wonderful or Worrisome? The Impact of the ECJ ruling in Infopaq on UK Copright Law*, in *EIPR* 2010, V, 247.
[13] Court of Justice, 1 December 2011, *Painer*, case C-145/10, paras. 89 and 92, in AIDA 2012, 486.
[14] Court of Justice 1 March 2012, *Football Dataco v Yahoo! UK, case C-604/10.*
[15] Lord Young of Graffham, HC Deb, Vol. 489 (12 November 1987), col. 1476.
[16] CDPA, s 9(3).

In view of this, section 178 CDPA 1988 needs further clarification so that it is not exploited for protecting AI-generated literary, dramatic, musical, and artistic works, where a human creator cannot be identified. The developer of the AI is not to be regarded as the creation of AI work in the same way as the manufacturer of a camera does not create its photographs.

On the other hand, related rights such as a sui generis protection, with a reduced term of protection (50 years from the date of creation, *see also section 12(7) CDPA 1988)*) could be explored for original literary, dramatic, musical and artistic works autonomously generated by AI. Arguably, the EU Database Directive could be a potential fit for such works and could be used as a model to build upon. Whilst anti-competitive applications of the sui generis right should be avoided, the database regime can be useful because it provides for a number of exceptions and limitations. As seen in the *Ryanair v PR Aviation*[17] case, if the Database Directive does not apply, nor do its exceptions and limitations. This means that AI companies can factually appropriate large amounts of contents and data e.g. by using contracts and technological protection measures, and end-users cannot invoke exceptions to access and use those contents. It is therefore of the utmost importance that, when deciding how to regulate AI works, the IPO and the UK Parliament are aware that there is a need to regulate not to facilitate ownership of AI works, but to counter factual control of AI works and the sterilisation of IP exceptions.[18]

AI works belong to the public domain. However, should the UK lawmaker opt for introducing some form of protection to these works, a thorny problem would arise: the identification of the owner. This will have to be the person or persons who are responsible for the intellectual creation. If no such person can be identified and the public domain option is discarded, then one could adopt the model of computer-generated works and look at the person(s) who made the necessary arrangements for the creation of the work (section 9(3)). However, as with section 178 CDPA 1988 and

[17] Case C-30/14 [2015] 2 All E.R. (Comm) 455.
[18] More on this in Guido Noto La Diega, 'Artificial Intelligence and Databases in the Age of Big Machine Data' (2019) 25 AIDA 2018 93.

its application, these sections also need further clarification to ensure that the copyright system as it stands today continues, with certain reforms.

Question 7

Do other issues need to be considered in relation to content produced by AI systems?

Other key issues to include are:

- In light of the growing problem of IP overlaps, that is exacerbated by new technologies such as AI and the IoT, it is of the utmost importance that either (i) a fair-use-like approach is adopted, or (ii) IP exceptions are streamlined so that rightsholders cannot use their exclusive rights, say, under patents, to circumvent copyright exceptions.[19]
- These fair use or streamlined exceptions should be (i) non-overridable by means of contracts; (ii) be respected by any technological protection measure; (iii) considered as a strong case against automated forms of enforcement (e.g. robo notice, ContentID, upload filters, etc.).[20] Addressing AI's factual control over intangible assets is one of the main challenges that lie ahead.
- The use of AI to detect and react to IP infringement should be discouraged. The main argument against automated enforcement is that AI cannot cope with IP exceptions and therefore its deployment leads to overprotection and threatens freedom of expression and the public interest.[21] These are not futuristic scenarios, there is evidence[22] that already deployed automated systems of notice and takedown lead to online platforms taking down content en mass, regardless of any consideration for copyright exceptions. When AI and

[19] Guido Noto La Diega, *Internet of Things and the Law* (Routledge 2021) ch 7; Martin Senftleben, 'Overprotection and Protection Overlaps in Intellectual Property Law - the Need for Horizontal Fair Use Defences' in Annette Kur and Vytautas Mizaras (eds), *The structure of intellectual property law: can one size fit all?* (Edward Elgar 2011); Estelle Derclaye and Matthias Leistner, *Intellectual Property Overlaps: A European Perspective* (Hart 2011).

[20] See e.g. Rossana Ducato and Alain Strowel, 'Limitations to Text and Data Mining and Consumer Empowerment: Making the Case for a Right to "Machine Legibility"' (2019) 50 IIC 649.

[21] Pamela Samuelson, 'Regulating Technology through Copyright Law: A Comparative Perspective' (2020) 42 EIPR 214.

[22] Karaganis, Joe, and Jennifer Urban. "The rise of the robo notice." *Communications of the ACM* 58, no. 9 (2015): 28-30.

automated systems are in place, it is of vital importance that a counter-notice mechanism is in place and a human being can review the decision to take down content or make it otherwise unavailable. This right to a human appeal would add to the similar right provided under Article 22 of the GDPR.

- Clarification is needed as to the relationship between IP and data protection. There is the risk that IP is used to appropriate personal data as well as being leveraged to create a 'legal black box'[23] and prevent the exercise of GDPR rights such as access and AI explainability.[24] The US case[25] where the AI system COMPAS was used to assess whether a person would a threat to society in the future – alongside reminding us dystopic film Minority Report – is a powerful reminder that IP can be a powerful enabler of AI applications that are a threat to fundamental human rights such as privacy and the right to a fair trial.[26] The IPO and the ICO should work together to provide these much needed clarifications.

Trade marks

Question 1

If AI technology becomes a primary purchaser of products, what impact could this have on trade mark law?

Many industry experts propose the liability of Artificial Intelligence (AI) providers should be similar to that of search engines such as, Google or hosting services such as, eBay https://www.lexology.com/library/detail.aspx?g=081aa32a-f9bc-4a89-8bce-6e5ea80c80ef%20 . However, whilst these policies – e.g. contributory infringement – could be an initial sensible approach to take, there are also some unexplored issues created by the rise of AI technology, which might demand a closer assessment of the

[23] Guido Noto La Diega, 'Against the Dehumanisation of Decision-Making – Algorithmic Decisions at the Crossroads of Intellectual Property, Data Protection, and Freedom of Information' (2018) 9 JIPITEC 3.
[24] Guido Noto La Diega and Cristiana Sappa, 'The Internet of Things at the Intersection of Data Protection and Trade Secrets. Non-Conventional Paths to Counter Data Appropriation and Empower Consumers' 2020 REDC;
[25] *Loomis* v. *Wisconsin*, 881 N.W.2d 749 (*Wis*. 2016), cert. denied, 137 S.Ct. 2290 (2017).
[26] ECHR, arts 6 and 8.

subsequent effect on trademark legislation https://www.inta.org/wp-content/uploads/public-files/advocacy/committee-reports/AI-and-the-Future-of-Brands-Report-2019-010-18.pdf

It has been suggested that one would expect a court decision concerning AI becoming a primary purchaser of products and perhaps infringing trademark legislation to be decided in a similar way to the Court of Justice of the EU rulings in Joined Cases C-236/08 C-237/08 and C-238/08 *Google France SARL and Google Inc. v Louis Vuitton Malletier SA* (C-236/08), *Google France SARL v Viaticum SA and Luteciel SARL* (C-237/08) and *Google France SARL v Centre national de recherche en relations humaines (CNRRH) SARL* [2010], and Case C-324/09 *L'Oréal SA and others v eBay International AG and others* [2012] All ER (EC) 501. Arguably, it appears that if AI technology was operating in such a manner that it could allow unlawful activity, and the owner or programmer of the technology was notified of this activity and ignored it only then they could be considered liable under trademark law https://www.hgf.com/media/1173564/09-13-AI.PDF - see page 5.

In Joined Cases C-236/08 C-237/08 and C-238/08 *Google France SARL and Google Inc. v Louis Vuitton Malletier SA* (C-236/08), *Google France SARL v Viaticum SA and Luteciel SARL* (C-237/08) and *Google France SARL v Centre national de recherche en relations humaines (CNRRH) SARL* [2010], the CJEU explained that under Recital 42 of the E-Commerce Directive 2000/31, internet intermediaries such as, Google were exempted from liability if they performed activities of a 'merely technical, automatic and passive nature' - that is neutral activities - meaning that the intermediary did not have 'knowledge' or 'control' over the data that communicated or stored – see [113]. The CJEU noted that, pursuant to Article 14 of the E-Commerce Directive, to assess whether the role played by Google was neutral regarding its Google Ads (an online advertising service where advertisers bid to display ads), using Google's AI software, the search engine processed the information typed by advertisers and the related display of advertising was carried out under conditions that Google controlled - see [114]-[115]. However, the Court held that Google had neither 'knowledge' nor 'control' when:

- Google Ads were paid by advertisers;

- Google drafted the payment terms;
- Google gave general information to its consumers;
- The Google Ad keyword chosen, and the search term typed by user matched - see [116]-[117].

On the other hand, the CJEU found that Google could have 'knowledge' or 'control' when:

- Google drafted the commercial text accompanying the Google Ad link
- Google decided or selected Google Ad keywords

Importantly, however, the CJEU concluded that this was something that needed to be decided by the domestic courts of Member States – see [118].

Moreover, in Case C-324/09 *L'Oréal SA and others v eBay International AG and others* [2012] All ER (EC) 501, the CJEU noted that internet intermediaries such as, eBay were not exempted from liability if rather than limiting themselves to delivering their service neutrally by an automatic and simply technical processing of the information supplied by its clients, played an active role of such a type as to provide it with 'knowledge' or 'control' over this information – see [113]. The CJEU explained that eBay processed the information typed by its customer-sellers and the offers for sale in accordance with eBay terms and conditions – see [114].
The Court held that eBay had neither 'knowledge' nor 'control' when:

- eBay stored offers for sale on its platform
- eBay drafted its service terms and conditions
- eBay was paid by its service
- eBay gave general information to its clients – see [115].

On the other hand, the CJEU found that eBay did not take a neutral position between possible buyers and the customer-seller involved when it played an active role of such a type as to provide it with 'knowledge' or 'control' over the data concerning these offers for sale. Specifically, eBay had 'knowledge' or 'control' if it offered help such as:

- Optimising the presentation of the offers for sale
- promoting those offers for sale

Accordingly, the CJEU concluded that eBay as a hosting service provider was not exempted from liability and could not benefit from the safe harbour exemption included in Article 14(1) of the E-Commerce Directive – see [116].

It has been suggested that one needs to distinguish between a 'pure AI purchase', if the human does not play an active role in the assessment of the item by brand; and an 'impure AI purchase', if the human plays an active role in the buying decision by commanding the AI technology which brand to buy http://www.hgf.com/media/1623950/Lee-curtis-AI-article.pdf – see page 3. It has been argued that if the buy is a 'pure' AI purchase, it is not necessary to examine the likelihood of confusion or similarity of the trademarks since the marks did not take part in the buying decision. In this instance, the AI technology would just possibly be a secondary infringer. By contrast, in the case of a combined human and AI purchase, the consumer takes part and chooses the brand when ordering, so potential confusion would remain http://www.hgf.com/media/1623950/Lee-curtis-AI-article.pdf - see page 3.

However, in view of the CJEU *Google France* and *L'Oréal* rulings above, it is arguable that the question that needs answering is the extent to which providers of AI technology such as, Amazon or Google would become liable, for example, when they are the primary purchaser of infringing products and/or optimize and promote the presentation of counterfeit offers for sale.

Firstly, one could argue that it is unlikely that AI would ever become the primary purchaser of infringing products and/or optimize and promote counterfeit offers for sale as content recognition technologies exist, which can detect and prevent online trademark infringement. For instance, the online retailers Amazon and Alibaba currently use AI, machine learning and big-data analytics systems that proactively recognize counterfeit products and prevent them from being listed. By continually monitoring data concerning product features such as brand, seller information and category, such systems allow online retailers to detect possible counterfeit items and counterfeiters. However, the problem here is that anti-counterfeiting AI and machine learning systems can also be easily circumvented. For example, experienced

counterfeiters currently list fake products posting real descriptions, pictures of the genuine items, and at similar prices to the original, making them hard to identify deploying automated systems. Moreover, text or optical image recognition technology could be equally bypassed by criminals who publish images of authentic items in their listings https://www.wipo.int/edocs/mdocs/enforcement/en/wipo_ace_12/wipo_ace_12_9_rev_2.pdf – see pages 10 and 11.

Additionally, it is important to note that Article 15 of the E-Commerce Directive prohibits Member State courts from imposing on hosting services a general obligation to monitor stored or transmitted information or actively look for facts or circumstances denoting unlawful action, such as in the above cases. On the other hand, under the E-Commerce Directive, the prohibition of monitoring duties exclusively concerns monitoring of a general character. Recital 47 of the E-Commerce Directive also allows Member States to require services to perform a monitoring obligation in a specifically targeted situation. Moreover, pursuant to Recital 48 of the same Directive, such services can also adopt 'duties of care' to identify and prevent unlawful activities, specified by domestic legislation.

In this context, it is worth stressing that in Case C-18/18 *Eva Glawischnig-Piesczek v Facebook Ireland Limited* [2019] EU:C:2019:458 [46], the CJEU explained that, pursuant to Article 15 of the E-Commerce Directive, a duty extending to information with equivalent content did not result in a general monitoring obligation being imposed upon hosting services. The CJEU found that this was particularly the case provided that the monitoring and examination of information required were limited to the information including the details set out in the notice and staydown filtering injunction, and the services were not required to undertake an independent evaluation since they could use 'automated search tools and technologies'. https://www.tandfonline.com/doi/full/10.1080/13600869.2020.1733760

Secondly, when it comes to assessing how online retailers optimize and promote the presentation of offers for sale potentially suggesting counterfeit products and sellers, it would be interesting to find out, for example, what are the parameter choices that

Amazon considers when ranking listings on its platform. Is it price? Is it rating? Is it sales? As of November 2020, it has been reported that, following an antitrust investigation, the EU has levied formal charges against the online retail giant for misusing data collected from third-party sellers, abusing its dominant position and distorting competition in the marketplace. Amazon has been found to be systematically utilizing data from every buy on its website to feed the algorithms, which determine what new items the platform will sell, how it controls its catalogues and what products to suggest to its clients. Allegedly, the use of this data permits the tech giant to concentrate on the offering of best-selling products, thereby downgrading third-party merchants and their ability to compete https://www.fnlondon.com/articles/eu-charges-amazon-over-anti-competitive-use-of-merchant-data-20201110 .

In the UK, the Data Protection Act 2018 restricts the gathering and processing of personal data under Article 22 of the General Data Protection Regulation 2018 (EU) 2016/679. Personal data cannot be retained 'longer than is necessary' and the purpose for the data needs to be accepted and then complied with. Even with an automated decision built in such information, users/consumers enjoy the right to an explanation of the decision 'meaningful information about the logic involved, as well as … the envisaged consequences of such processing' (Article 13(2.f)). Technically speaking, under the Data Protection Act 2018, if the data controller (e.g. Amazon/Google) fails to put in place 'suitable measures' to permit human intervention, the user/consumer has 'the right not to be subject to a decision based solely on automated processing including profiling, which produces legal effects concerning him or her or similarly significantly affects him or her', as per Article 22(1). This in turn could limit the amount of information that AI technology is able to collect, process and retain. Moreover, it could also mean that in situations where users/consumers could be significantly affected - such as, in the above cases – there should always be some form of human involvement/supervision https://www.ofcom.org.uk/__data/assets/pdf_file/0028/157249/cambridge-consultants-ai-content-moderation.pdf - see page 26.

In this regard, it is suggested that trademark examiners such as, the UK IPO and courts should take into account the UN Special Rapporteur on freedom of expression, which recommends that information be published frequently on the regularity at which

AI-based notice and staydown decisions are subject to complaints, and the types, requests and effectiveness of remedies available. Specifically, how much content notice and staydown filters remove, how frequently human moderators authorise notice and staydown filter removals, how often these removals are disputed and how regularly challenges are approved. In turn, this would ensure that AI-based notice and staydown systems satisfy the minimum criteria required under international law. In other words, pursuant to Article 19 (3) of the International Covenant of Civil and Political Rights 1966, the right to freedom of expression can only be limited subject to three conditions. Specifically, limitations must: 1) be provided by law; 2) pursue one or more of the legitimate aims included Article 19 (3) e.g. respect for the IP rights of others; and 3) be strictly necessary and proportionate. David Kaye concludes that AI developers should lastly be transparent about the reliability of metrics to evaluate upload filters' effectiveness, well-known failure scenarios such as, false positives and false negatives, as well as content identification problems associated with data quality and algorithmic design https://www.undocs.org/A/HRC/38/35 .

Question 2

Are there, or could there be, any difficulties with applying the existing legal concepts in trade mark law to AI technology?

In Case T-250/15 *Speciality Drinks Ltd v European Union Intellectual Property Office - William Grant (CLAN)* ECLI:EU:T:2016:678, the European General Court (EGC) held that pursuant to well-established case-law, the presence of a likelihood of confusion on the part of the public was to be assessed globally, bearing in mind all relevant circumstances and factors of the case. The General Court found that this global assessment of the likelihood of confusion, relating to the conceptual, visual, or phonetic similarity of the trademarks, had to be based on the overall impression, which the specific trademarks gave, considering their dominant and distinctive elements. Moreover, it stressed that the way the average consumer perceived the goods or services at issue played a key part in the test of the global assessment of the likelihood of confusion. It concluded that the average consumer generally perceived a trademark as a whole and did not take the time to examine all its details – see [59].

According to Juniper Research, by 2024 consumers are likely to interact with voice assistants such as, Amazon's Alexa or Google's Nest Mini on over 8.4 billion devices; growing 113% in comparison to the 4.2 billion online devices anticipated to be used by the end of 2020 and overtaking the world population https://www.juniperresearch.com/press/press-releases/number-of-voice-assistant-devices-in-use . Arguably, this could lead to difficulties when it comes to adopting the EGC global assessment of the likelihood of confusion's test, relating to the conceptual, visual, but perhaps more importantly, *phonetic similarity* of trademarks. It should be borne in mind that AI technology can just identify what it has been taught to hear. Its flexibility is determined by the variety of accents and dialects to which it has been trained. To educate AI to identify speech, one requires many audio clips. Firstly, analysts must gather thousands of voices, talking about a variety of subjects. They then transcribe by hand the audio samples. This mixture of information (audio samples and written transcriptions) permits AI technology to correlate words and sounds https://www.wired.com/2017/03/voice-is-the-next-big-platform-unless-you-have-an-accent/ .

However, it is worth noting that both unconscious and deliberate human bias can be incorporated into AI technology during development. Algorithm bias can originate from the practice of classifying supervised learning datasets (particularly if carried out by hand such as, in the above scenario) and under representative and biased datasets like not introducing a sufficient variety of accents and dialects. For example, it has been reported that a regular database of US voices would be devoid of uneducated, poor, rural, non-white, non-native English voices. The more of those classifications one falls into, the worse voice recognition is for them https://www.wired.com/2017/03/voice-is-the-next-big-platform-unless-you-have-an-accent/. For instance, in the UK to place orders using the AI-based voice assistant technology Amazon's Alexa, all one needs to do is to turn Alexa voice purchasing on, a valid payment method, an Amazon account and a device with access to Alexa. Although it is possible to cancel the order, require a 4-digit voice code to confirm purchases or prevent accidental orders, and limit purchasing so that only recognized household members can place orders with; the issue here is that this could lead to

problems when applying the existing phonetic similarity concept into trademark legislation.

Furthermore, parameter choices and back-propagation during AI teaching can incorporate or maximize bias, deliberately or unintentionally https://www.ofcom.org.uk/__data/assets/pdf_file/0028/157249/cambridge-consultants-ai-content-moderation.pdf - see page 41.

Taken together, it is suggested that trademark examiners and courts should ensure that AI algorithms are taught on representative, unbiased training datasets to significantly decrease any bias incorporated into the algorithm itself. Furthermore, trademark examiners and courts should also increase public confidence that any possible sources of bias in AI technology are known and adequate measures are taken to alleviate them. This could be done by adjusting and auditing datasets to comprehend how representative these are of the diversity of citizens in the world, as well as setting out testing systems for AI technology https://www.ofcom.org.uk/__data/assets/pdf_file/0028/157249/cambridge-consultants-ai-content-moderation.pdf - see page 41.

Question 3

Does AI affect the concept of the 'average consumer' in measuring likelihood of confusion?

In Case T-250/15 *Speciality Drinks Ltd v European Union Intellectual Property Office - William Grant (CLAN)* ECLI:EU:T:2016:678, the European General Court held that the 'average consumer' was reasonably well informed, circumspect and reasonably observant – see [26]. Moreover, in Case C-342/97 *Lloyd Schuhfabrik Meyer & Co. GmbH v Klijsen Handel BV* [1999] ECR I-03819, the CJEU found that the 'average consumer' barely had the opportunity to make direct contrast between different trademarks, but had to rely on the imperfect recollection of information that he retained in his memory. The CJEU noted that the 'average consumer's' level of attention was likely to differ depending on the type of goods or services at issue – see [26]. Furthermore, in Case T-697/19 *Teva Pharmaceutical Industries Ltd v European Union Intellectual Property Office* [2020] (not yet published), the European General Court elaborated that the 'average consumer' was not considered just the consumer who belonged to the 'general public', but similarly involved the consumer who belonged to

the public 'specifically targeted' by the specific goods and services – see [19]. Additionally, in Case C-361/04 P *Claude Ruiz-Picasso and Others v European Union Intellectual Property Office* ECLI:EU:C:2006:25, the European First Chamber added that when carrying out the global assessment of the likelihood of confusion, it was also important to consider that, in light of the nature of the goods involved and particularly their 'highly technological character' and price, the public's level of attention when buying goods and services was especially high – see [59].

It has been suggested that the above are all intrinsic human 'faults' incorporated into trademark legislation https://www.hgf.com/media/1173564/09-13-AI.PDF - see page 12. Thus, some questions remain unanswered. If AI is the consumer, are such parameters still applicable? Would AI be likely to experience imperfect recollection? Does an AI's level of attention differ depending on the product? In answer to these questions, it has been argued that it is unlikely as AI has no memory like humans, it is software, thus being capable of perfect recollection https://www.hgf.com/media/1173564/09-13-AI.PDF - see page 12. However, the problem here is that the use of AI generally means an inevitable fact. Put simply, that mistakes will occur. Specifically, a 'false positive' when for instance Amazon's Brand Registry flags a legitimate product, which detects as counterfeit and removes it from its pages, and a 'false negative' when Amazon's Alexa confusingly purchases a counterfeit product because its AI thought it was genuine. Indeed, this entirely consistent with Case 70-10 *Scarlet Extended SA v Société belge des auteurs*, *compositeurs et éditeurs SCRL (SABAM)* [2012] ECDR 4 [52] and Case 360-10 *Belgische Vereniging van Auteurs, Componisten en Uitgevers CVBA (SABAM) v Netlog NV* [2012] ECR I-0000 [50]. In these copyright rulings the CJEU cautioned that AI systems were unable to properly distinguish between illegal and legal content, thus negatively impacting on statutory exceptions to copyright, content falling within the public domain or being shared freely.

Arguably, in view of EU case-law, when carrying out the global assessment of the likelihood of confusion, trademark examiners and courts are likely to interpret and apply the parameters used to assess who the 'average consumer' is, broadly and flexibly to reflect the rise of AI. In this regard, it is suggested that they should not lose

sight of the fact that the reputational damage to an online retailer, which allows its AI to result in false positives and false negatives can be enormous and as such, it is crucial to design technology with high accuracy that is, significantly decreasing both false positive and false negative rates. Moreover, some infringing items cannot easily be determined using content analysis alone but require knowledge of the context surrounding it to establish whether it is infringing. In fact, understanding such context consistently raises significant issues for both AI and humans. It demands a wider appreciation of cultural, societal, political and historical aspects, thus requiring a mixture of contextual and cultural awareness to be effective https://www.ofcom.org.uk/__data/assets/pdf_file/0028/157249/cambridge-consultants-ai-content-moderation.pdf - see pages 4, 37 and 38.

Question 4

What is the impact of AI on the drafting of section 10 of the TMA 94?

Can AI "use in the course of business" a sign which may be confusingly similar or identical to a trade mark?

Section 10 address the exclusive rights afforded to the registered trade mark proprietors to prevent third parties from infringing their marks. In order to satisfy the criteria of section 10, the alleged infringing use of the proprietor's mark has to be used as a 'trade mark (trade mark use) 'in the course of trade'.

In short, we argue that, due to a rapid increase in an integration of AI in human's purchasing decision making process, which leads to changes in consumer's purchasing behaviour, it is highly likely that the interpretation of section 10 of TMA 94 requires revisiting. This seems to be the impact of AI on the drafting on section 10. We, however, argue that any amendments to section 10 may not be necessary, since reflection on any changes in the consumer's purchasing decision making process can be sufficiently made via the court's interpretation of section 10. The author argues that this approach provides a more flexible and technologically neutral approach to the problem posed by an unforeseeable future involving AI and trade mark law.

In addition, we claim that AI's use of a sign, which may be confusingly similar or identical to a trade mark in the course of business, shall not be considered as an infringing use as stated under section 10.

In order to conceptually amplify this proposition, some hypothetical examples will be illustrated. The purpose of demonstrating these examples is to show how AI can be an integral part of, and influential to consumers' decision-making process (please note that the below hypothetical examples will be used throughout the following sections)

Hypothetical examples

(A) I go to the Amazon website. AI anticipates which products I would like to buy based on my browsing history, an mount of time being spent by me on looking at an item/ a page. AI, then, makes the *targeted* recommendation. As a result of the targeted recommendation being presented, my next step will be that: (i) I buy one from the recommended list; (ii) I buy items not from the list; or (iii) I decide not to buy. This model is called 'Shopping then Shipping'

(B) I speak to Alexa: "Alexa get me a bottle of water". Alexa searches and finds the item for me at a certain price. Alexa then asks if I am happy to go ahead with the order. If I say "yes", she orders the item for me.

(C) Alexa predicts products I might like to buy, and sends/delivers me a selection of products (without me directly asking Alexa to order). I then decide which one to keep (or not to keep). This model is called 'Shipping then Shopping'.

Firstly, this report deals with examples A and B. There are two main points to be noted: first is the level of human interaction required in the decision-making process; and second is the manner in which the human senses are involved. In comparison with A and B, the former requires a certain level of human interaction, whilst none of it is required by the latter. Blatantly speaking, purchasing decision is being totally 'hijacked' by AI in the case of the latter.

Second is that Example A necessitates human visual involvement in the decision-making process. It is highly likely that I am looking at the screen of any kind of personal computer devices, such as a laptop, a smart phone or tablet when I am making a purchasing decision. I am, therefore, visually involved with the purchasing decision making process – I can 'see' what I buy.

In Example B, on the other hand, it is very unlikely that I 'see' the product when the bottle of water is purchased by Alexa. I only 'hear' the product when Alexa tells me that she found a bottle of Volvic for 60p. Example B eliminates the possible number of human interaction involved. Moreover, it only requires human auditory involvement in the decision marking process, that is to say, I only rely on my phonetic recollection of the sound of 'Volvic'.

Example C represents somewhat a peculiar situation where a combination of A and B can both be present. This can be said to be the ultimate form of predictive retail where AI predicts what a consumer wishes to purchase and delivers a bundle of products accordingly. The consumer, then, will choose which product to keep or not to keep. The consumer is fully involved with the purchasing decision making process, though Examples B and C illustrate a difference as to when the consumer's involvement takes place.

By way of background, ways in which AI comes up with the targeted recommended list is of note. This is of significance in order to make a distinction how the system of Adword/sponsored products operates. A main source of a suggested list of products generated by AI on Amazon, for instance, can include the consumer's browsing history, the history of the consumer's purchase, and other's browsing history. Therefore, unlike sponsored products, which can be part of the list, it can be said that the purest form of the list of the targeted recommendation, does not bring any economic advantages to Amazon.

Equipped with the knowledge of AI-assisted sites, such as Amazon, we will now move on to discuss whether the third party's use of trade mark by AI can be an infringing act for the purpose of section 10.

Section 10(4) provides us with a non-exhaustive list of 'trade mark use' which can give rise to trade mark infringement and it also states that such use must occur 'in the course of trade'.

Clear guidance on the interpretation of 'trade mark use' in relation to cases involving AI can be sought in the case of *Google France*[27]. This case was brought by brand owners in France, whose registered trade marks were LVHM and Luis Vuitton.[28] The owners argued that Google had infringed their registered trade marks by selling keywords corresponding to their registered trade marks to advertisers as part of Adword system. The French national courts sought a preliminary ruling from the Court of Justice (at the time of the case, it was still called the European Court of Justice) as to whether this system constituted an infringing use of the relevant trade marks. The court held that Google was not liable for trade mark infringement in the operation of Adword system, and that Google's use of trade mark is not 'trade mark use' required in Article 6(3) of the EU Trade Mark Directive[29]/section 10(4) of the TMA 1994.

Furthermore, helpful guidance on the interpretation of 'in the course of trade' can be found in the case of *Arsenal v Reed*[30]. The court found that that such use 'takes place in the context of commercial activity with a view to economic advantage and not as a private matter'[31]. In *Google France*[32], the Court of Justice delivered the judicial interpretation of 'in course of trade' and concluded that the advertisers were using the trade marks in the course of trade[33], whilst Google was not[34].

[27] Case C-236/08 deals with a dispute between Louis Vuitton Malletier SA and Google. Joined case C 236, 237 and 238/08 [2010] ECR 1-2417.
[28] The detailed facts of the case and judgements are well-explained in B. Clark ECJ decides in French Google AdWord referrals: more seek than find? (2010) 5 IPLP 7 477-480.
[29] Directive (EU) 2015/2436 of the European Parliament and of the Council of 16 December 2015 to approximate the laws of the Member States relating to trade marks.
[30] *Arsenal v Reed* (Case 206/01) [2002] ECR1-10273.
[31] *ibid* at [40].
[32] *Google France v Louis Vuitton* (C-236/08) [2010] ECR I-6011.
[33] *ibid* at [51].
[34] *ibid* at [55].

Therefore, it can be concluded that AI's use of trade marks shall be not be considered as trade mark use' 'in the course of trade' required in section 10.

Question 5

Can the actions of AI infringe a trade mark?

As has been discussed the above response, AI's use of trade mark shall be disqualified from 'trade mark use' 'in the course of trade' required in section 10; and therefore, generally speaking, AI's acts shall not be considered as infringing act committed in the course of trade. However, though it will be discussed in more depth in the subsequent Section 6, we would like to point out that there seems to be a number of potential situations where the owner of AI can potentially be held liable in trade mark infringement (this point will lead to the discussion made in the subsequent Section 6).

A similar exercise, which is done in the previous response, will be undertaken in order to amplify some situations where AI can play a central role in the consumer's purchasing decision-making process. Extra facts will be added onto the list of question 4 response.

(A) When I search a bottle of water on Amazon from any computer devices (smart phone, tablets, a laptop, etc), AI comes up with a list of targeted recommended products: The list can contain the following potential products:

(i) counterfeited product(s);

(ii) two or more of bottles of water, to which confusingly similar marks attached, and therefore I may be confused at the point of purchase;

(iii) sponsored products, to which confusingly similar marks are attached; and,

(iv) combination of these.

(B) I say to Alexa 'find me a bottle of water'. Alexa tells me a list of products that are available to myself to purchase, one of which contains a counterfeited product and or very confusingly similar name is used.

(C) I say to Alexa: 'buy me a bottle of water'. Alexa then finds any bottle of water available on Amazon, which is the counterfeited product, and make a purchase on my behalf, without any human intervention.

(D) Alexa predicts and choses the products I may wish to buy and sends those to me. The selection of products, which Alexa sent me, include counterfeited products, and others, to whish confusingly similar mark are attached.

Considering the situations noted above, some might argue that AI acts as the enabler of trade mark infringement, and it may well point out AI is capable of committing a secondary trade mark infringement. However, this point has already been well-established in a number of cases. One of the most leading cases which dealt with this issue is *CBS Songs v Amstrad*[35] involving the copyright infringement issues. The court found that any liabilities shall not be imposed on the owner of tape-to-tape recorders. The facts of the case were as follows: The first defendant manufactured twin-deck tape-recording machines which were sold by the second defendant. They could be used to reproduce one tape directly onto another, and were advertised in a manner likely to encourage home-taping of and copying of copyright material. The claimant, *inter alia,* alleged that the defendants committed the copyright infringement by manufacturing a machine which encourages the member of public to commit and to copyright infringement. The House of Lords dismissed the claimant's claim alleging that the product made by the defendant was not designed to infringe any copyrights, and therefore the defendants did not authorise the copyright infringement.[36]

Applying the *ratio* of *CBS* to the hypothetical examples listed above, it can be said that the AI is not purposefully designed to infringe any trade mark on the online market

[35] *CBS Songs Ltd v Amstrad Consumer Electronics Plc* [1988] AC 1013.
[36] *ibid* at 1013 [H].

place such as Amazon. Therefore, AI's acts shall not be considered as any of the infringing acts under section 10.

In a similar vein, the judgement of *L'Oréal v eBay*[37] will be applied here to justify the proposition that AI shall not be held liable in trade mark infringement. The facts of case were described as follows: The online market site, eBay, was sued by L'Oréal, a French-based giant personal care company and a trade mark holder of Owner of the well-known beauty products, which as Lancome, Maybelline and Kerastase. L'Oréal, alleged that eBay had committed a trade mark infringement by (ii) allowing the third party to sell counterfeited products of L'Oréal; and (ii) making 'use' of a trade mark when that mark was being displayed by one of the eBay sellers on the site.

The court held that eBay can be held liable in relation to (i) if they are made aware of infringing activities. Internet intermediaries should take a proactive step to stop the infringing activities from happening. In relation to (ii), eBay's use of a trade mark shall not be considered as 'trade mark use' in the course of trade.

To summarise, it is clearly established in *Google France*[38] that the act of Google (search engine), which suggests the mark as a key word and generates the adverts in response to the key word, shall not be considered as 'trade mark use' in the context of trade mark infringement. In similar vein, online market providers[39], such as eBay, are not held liable in trade mark infringement when users of the online market place deal with the products to which the earlier trade mark is attached.[40] We can therefore conclude that AI is unlikely to be held liable in the cases of trade mark infringement.

Questions 6

If AI can cause trade mark infringement, does this change who could be liable? Should it be the owner, the operator, the programmer, the trainer, the provider of training data, or some other party?

[37] *L'Oréal SA v eBay International AG* (C-324-09) [2011] ECR I-6011.
[38] *Google France v Louis Vuitton* (C-236/08) [2010] ECR I-601
[39] Online market providers facilitate online place where consumers can sell and buy the products.
[40] *L'Oréal SA v eBay International AG* (C-324-09) [2011] ECR I-6011.

We have already established that the court is very unlikely to find that AI *per se* can infringe the proprietor's trade mark rights. However, there is a possibility that the owner of AI can be held liable in trade mark infringement. Further guidance on this proposition can be sought by examining established case law; thus we shall revisit the cases of *Google France*[41], *Loreal v eBay*[42], and *CBS Songs v Amstrad*[43] (see above section 5).

We will now turn our eyes to the exceptional occasions where AI's owner can potentially be held liable. This can be illustrated by the following hypothetical situations:

(E) Algorithms applied in AI were manipulated by the programmer so that only a particular product were be selected and therefore without human intervention, purchased by Alexa. The list can contain the following potential products:

(i) counterfeited product(s);

(ii) two or more of bottles of water, to which confusingly similar marks attached, and therefore a *consumer* may be confused at the point of purchase;

(iii) sponsored products, to which confusingly similar marks are attached; and,

(iv) combination of these.

(F) Algorithms applied in AI were manipulated in a way that only selected products that are included in a recommended list. The products included in the list is same as above (See (E)). The consumer then buys a product from the manipulated list.

[41] Case C-236/08 deals with a dispute between Louis Vuitton Malletier SA and Google. Joined case C 236, 237 and 238/08 [2010] ECR 1-2417.
[42] *L'Oréal SA v eBay International AG* (C-324-09) [2011] ECR I-6011.
[43] See the fact of the case described in *L'Oréal SA v eBay International AG* [2009] EWHC1094 (Ch).

We make an assumption that the owner of AI asked a programmer to manipulate the algorithms applied in AI. Examining the situations above, it can be suggested that the owner of AI ought to be primary infringer and that a programmer can be held as the secondary infringer on the condition that the programmer knew or ought to know the intention of the owner.

Examining the above situation, the manipulation made in the algorithms is intentionally done with a view to illicit economic gain. We can argue that such cases shall meet the requisites under section 10; that the trade mark needs to be used as a trade mark in the course of trade; and therefore the owner of AI can be held liable.

To conclude, AI seems to be very unlikely to be held liable in trade mark infringement whilst the owner of AI can be held liable in the situation illustrated above. We argue that the intention of the owners whether she/he manipulates the algorithm applied in AI with a view to illicit economic gain, shall be taken into consideration when assessing whether the owner commits the trade mark infringement.

Individual supporters:

Dr. Maureen O. Mapp
Birmingham Law School