

INTELLECTUAL PROPERTY LAW

Is it time to depart from the anthropocentric nature of creativity? – The dilemma in Copyrightability of AI

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Introduction

The UK's Copyright, Designs and Patents Act 1988 (CDPA1988) was designed primarily on the notion of human creativity for protecting literary, dramatic, musical, or artistic works. However, in light of technological advancements, the Act is arguably in deadlock due to the dilemma of ascertaining the relevant author for the works generated by Artificial Intelligence (AI) models through human input. This article argues that the author of the AI-generated work should be the AI user rather than the developer, because there is no direct nexus between the output generated and the developer's underlying technical arrangements. Conferring copyright protection of such works to the developer will inevitably disincentivise users from using AI systems to create work, thereby continuing to create works using conventional means. It argues that there is a pressing need in the UK to amend copyright law and focus on the doctrine of authorship and originality for the protection of AI-generated works. Further, it argues that Parliament ideally should avoid accommodating AI-generated works under provisions for the protection of computer-generated works, as AI technology was not developed as it stands today and Parliament did not intend to protect AI's creativity under s.9(3) of the CDPA1988.

The emergence of Artificial Intelligence (AI) and its real-world effect has raised innumerable questions in the copyright arena and in intellectual property (IP) law more broadly, remaining unresolved, despite numerous debates for and against the recognition of AI's creativity under copyright law. While AI is an umbrella term including several types of technologies (such as machine learning, general AI, etc.), there is no universal definition that consistently applies to all AI technologies. In 1955, McCarthy defined AI as the science and engineering of making intelligent machines.¹ Subsequently, he defined intelligence as: 'the ability to learn and perform suitable techniques to solve problems and achieve goals, appropriate to the context in an uncertain varying world.' While this definition acknowledges the substantive involvement of science and engineering along with the cognitive abilities of this technology, it arguably does not appreciate all technologies underpinning AI, as each subset of this technology has its varying characteristics and abilities to perform in different contexts. The rapid advancement in this technology has arguably disrupted the existing copyright law framework across various jurisdictions (such as the EU, the US, the UK, and China, etc.).² In light of AI's rapid pace of advancement (despite the UK Government's stance that AI innovation remains in its nascent stages), it can be argued that the government should reassess this dilemma and amend the CDPA 1988 to expand its scope to protect AI's creativity. No AI system, at this stage of innovation, is likely to create original works without human intervention. Having said that, the AI machine indeed wields the potential to become an inventor by autonomously (i.e. limited human oversight) creating novel outputs. The article seeks to examine the existing framework of UK copyright law while proposing certain amendments to advocate for conferring copyright to the author of the AI-generated work.

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¹ 'Artificial Intelligence Definitions' (Human-Centred Artificial Intelligence, Stanford University) <<https://hai.stanford.edu/sites/default/files/2020-09/AI-Definitions-HAI.pdf>> accessed 5 August 2024.

² UK Intellectual Property Office, 'Artificial Intelligence and Intellectual Property: copyright and patents: Government response to consultation' (28 June 2022) <<https://www.gov.uk/government/consultations/artificial-intelligence-and-ip-copyright-and-patents/outcome/artificial-intelligence-and-intellectual-property-copyright-and-patents-government-response-to-consultation#overall-conclusion>> accessed 29 July 2024.

The CDPA 1988 and author's rights

While the UK copyright law has always managed to cope with the developments in the digital age, the existing copyright framework under the CDPA 1988 is arguably in deadlock because of the two fundamental underlying doctrines: human creativity and human originality. The CDPA 1988 is primarily designed on the notion of protecting the original works of authors (i.e. natural persons). The Act is influenced by the Berne Convention³ (a cornerstone of copyright law), to which the UK has been a signatory since 1887. The treaty is administered by the World Intellectual Property Organisation (WIPO) and it seeks to harmonise the global protection of literary and artistic works while conferring economic and moral rights to the first owner of the copyright (i.e. author).⁴ As a general principle, an author is the first owner of the copyright.⁵ It is, however, not necessary that ownership will permanently remain with the same creator; as copyright is a property right and could be assigned to another. However, the general principle makes some exceptions, including works created in the course of employment, where the first owner of the copyright for works created by an employee will be the employer (unless stated contrary in the agreement).⁶

The law appreciates instances where a work could have more than one author (i.e. joint authorship). Joint authorship of a work may arise in circumstances where a work is produced by the collaboration of two or more authors in which the contribution of each author is not distinct from that of the author or authors.⁷ In other words, the work created by two or more authors must portray non-distinctness in the contribution. Each will be regarded as the creator and author of their contribution to the work. In contrast, co-authorship arises where works produced by collaboration involve separate contributions to use the two works together.⁸ An author will always remain the author of their work, but whether their authorship gives rise to ownership is predicated on the context in which the work was created. This inevitably raises a question as to who creates computer-generated literary, dramatic, musical, or artistic work. The answer to this question could be the computer, but should the computer become the author of the work? Arguably, this would not only be against the notion of human creativity, but should a machine wield the capacity to grant property rights?

While the Berne Convention does not explicitly define the author as a human being, this is thought to be an implicit assumption as it asserts that "there is a presumption that the author is the one entitled to bring an action to assert the copyright in the work".⁹ Additionally, although the Berne Convention only acknowledges authors, it also clarifies the distinction between an author and an owner by allowing copyright to be assigned to the new copyright owner (except for moral rights).¹⁰ The Berne Convention suggests that the term 'author' includes any legal entity, which perhaps excludes an AI machine due to its moral incapacity in responsibility and in commercial contexts.¹¹ The CDPA 1988, as per the Berne Convention, grants moral and economic benefits to the author of the work. The moral benefits include (i) the right to be identified as the author of a literary, dramatic, musical, or artistic work¹²; and (ii) the right to object to derogatory treatment of work (i.e. the right to oppose any modification to the works which is prejudicial to the author), etc.¹³ Similarly, economic rights include (i) a right of

³ The Berne Convention for the Protection of Literary and Artistic Works 1886.

⁴ *ibid.*

⁵ Copyright, Designs and Patents Act 1988, s 11(1).

⁶ *ibid.*, s 11(2).

⁷ *ibid.*, s 10 (1).

⁸ *ibid.*, s 10A.

⁹ Berne Convention for the Protection of Literary and Artistic Works 1886, art 15.

¹⁰ *ibid.*, article 6bis.

¹¹ *ibid.*, article 15.4.

¹² Copyright, Designs and Patents Act 1988, s 77.

¹³ *ibid.*, s 80.

reproduction,¹⁴ (ii) a right of communication to the public¹⁵; and (iii) a right of public performance.¹⁶

Human authorship is the foundation of copyright, which portrays the author's personality touch. As such, the law grants them certain rights in return to recognise their originality and creativity in the work.¹⁷ This enables them to gain economic benefit every time their work is exploited through various means (such as selling copies, performing their work in public, etc.). Consequently, the copyright framework is undoubtedly anthropocentric (i.e. human-centred). Should copyright law create a framework that is purely technocentric, it is highly likely to be flawed, as computational processes, including training of AI models to build AI systems fundamentally rest with humans. Moreover, the process of triggering AI systems (i.e. the input stage) to generate output is carried out by humans according to their creativity. Consequently, AI is highly unlikely to autonomously gain economic benefits, together with deciding how and who ought to exploit created works. However, as AI systems develop, they indeed wield the potential to generate ideas and theories, suggesting means by which authors of work created using AI could potentially amass wealth. Such ideas could unarguably be only implemented by humans according to their decision-making abilities.

In the US case of *Naruto v Slater*,¹⁸ the issue was whether a macaque monkey could claim copyright and sue for copyright infringement under US copyright law. Subsequently, the court found that the macaque monkey did not have the standing to sue for copyright infringement, because the judges found that copyright law in the US 'implies humanity and necessarily excludes animals that do not marry and do not have heirs entitled to property by law'.¹⁹ Additionally, even though the US courts could have interpreted copyright law to include the creativity of animals, the decisions were yet likely to remain unchanged, as it was the photographer who had deliberately positioned his camera on the tripod close to a troop of monkeys and applied relevant settings on his camera that required the macaque monkey to merely press the capture button, thereby lacking originality under US copyright law.²⁰

Similarly, the emergence and consistent growth in the abilities of this tech-animal (i.e. AI) alongside its continuous involvement in creating literary and artistic works (such as music, large texts, etc.) has raised a dilemma in identifying the relevant author for the works generated by AI models through human input. This has undoubtedly led to policy issues, such as the preservation of traditional copyright principles, and the fundamental issue of identifying a non-human entity as the creator of the works.²¹ These generative AI models are becoming popular for music production, as streaming services such as Spotify, Amazon Music, etc. have a strong financial incentive – as emulating music created by human artists creates plenty of margins to gain profits, while incurring low costs.²² Such music streaming services would also be able to offer lower subscription costs, as they would be able to exploit the music without having to remunerate copyright owners. Should AI machines be attributed authorship and/or ownership, it could perhaps thwart the financial incentive and popularity of generative AI models in the music industry; as conferring copyright would allow them to exercise the related rights under the CDPA 1988. Interestingly, Jukedek, a UK-based AI start up, uses AI to produce music by simply requiring users to choose a mood, style, tempo, and length that enables the AI system to produce

¹⁴ *ibid*, s 17.

¹⁵ *ibid*, s 20.

¹⁶ *ibid*, s 19.

¹⁷ Abbe Brown and other, *Contemporary Intellectual Property Law and Policy* (OUP 2023).

¹⁸ 888 F3d 418 (9th Cir 2018).

¹⁹ *ibid*, 426.

²⁰ The Copyright Act 1976 (US), s 103.

²¹ Hafiz Gaffar, Saleh Albarashdi, 'Copyright Protection of AI-Generated Works: Exploring Originality and Ownership in a digital landscape' (2024) *Asian Journal of International Law* 1.

²² Dary Lim, 'Generative AI and Copyright: principles, priorities, and practicalities' (2023) 18 *Journal of Intellectual Property Law & Practice* 841.

a soundtrack corresponding to the set elements.²³ While this enables a layperson to create their music at significantly low costs and incentivises innovation, it is important to note that this unequivocally undermines the music industry from social, moral, and economic dimensions, as AI arguably seizes and undermines their opportunities and creativity respectively. Additionally, it could be argued that AI-generated music is devoid of emotions, personal experiences, and a genuine vision of the physical world of the composer. Such elements in music perhaps represent the authenticity of the composer along with the dramatism in it. The public's urge to listen to authentic emotional resonance could arguably control the creation of artificial bland music.²⁴

This advancement in technology indicates that AI could arguably seize music producers' ability to unleash their god-gifted art in the near future. On the other hand, it has been argued that this technology enables artists to create music or any such literary or artistic works in minutes as opposed to the traditional method.²⁵ The author of the work is simply required to prompt the AI system by providing an input (such as the nature of the song or lyrics) to generate the output. Imperatively, the output ought to be subject to satisfying the authorship and originality criteria to enjoy copyright protection. For example, it took J.K. Rowling six years to write the first book of the Harry Potter series.²⁶ However, the convenience of expeditiously creating literary and artistic works could undoubtedly affect the term of copyright protection, as it arguably lacks adequate intellectual contribution than that of works created by the traditional method, requiring considerable mental and emotional effort.

What are generative AI models?

While there is no generative AI model that can autonomously create original works, we have witnessed a robot equipped with machine learning technology (instead of concrete programming) can improve its behaviour autonomously and make an invention. Notably, virtual data is at the heart of generative AI models' operation (i.e. to suggest an output). The elements of creativity and the personal touch of the author are the foundation of the CDPA 1988.²⁷ Creativity is often referred to spiritually because the creativity of every human artist varies across the globe.²⁸ Moreover, the creativity of the author and their personal experiences enable them to add a personal touch to their literary, dramatic, musical, or artistic works. However, this creativity is arguably being conquered by machines that enable humans to produce work in minutes, which in contrast took decades to complete.²⁹ WIPO in its second session on Intellectual Property and Artificial Intelligence defined AI-assisted as "outputs generated with material human intervention and/ or direction".³⁰ It is imperative to note that any AI-generated output that is subsequently personalised or altered to particular circumstances or characteristics becomes AI-assisted. For example, prompting ChatGpt to create a draft letter of legal advice on a particular matter, and subsequently altering it to the client's characteristics and circumstances, renders the output AI-assisted.

The generative AI models (i.e. 'Large Language Models' (LLMs)) such as, ChatGpt and Soundraw use large datasets that allow them to learn and imagine things through various means such as large texts, images, etc. Nevertheless, these AI models are constrained to the data supplied

²³ Luo Li, 'Artificial Intelligence: An earthquake in the copyright protection of digital music', in Damian Bielicki (ed), *Regulating Artificial Intelligence in Industry* (Routledge, 2022).

²⁴ *ibid.*

²⁵ Timothy Pinto, 'Robo ART! The Copyright Implications of Artificial Intelligence Generated Art' (2019) 30 Entertainment Law Review 174.

²⁶ Söğüt Atilla, 'Dealing with AI-generated works: lessons from the CDPA section 9(3)' (2024) 19 Journal of Intellectual Property Law and Practice 43.

²⁷ Brown (n 18).

²⁸ Christine Walters, 'The Relationship Between Spirituality and Artistic Expression: Cultivating the Capacity for Imagining' (2007) 3 University of California, Los Angeles Newsletter 1.

²⁹ Li (n 24) 99.

³⁰ Chung-Ang, 'WIPO CONVERSATION ON INTELLECTUAL PROPERTY (IP) AND ARTIFICIAL INTELLIGENCE (AI) SECOND SESSION' (WIPO, 7 July 2020) <https://www.wipo.int/export/sites/www/about-ip/en/artificial_intelligence/conversation_ip_ai/pdf/ind_son.pdf> accessed 27 July 2024.

by humans, which in turn fetters the system's capability to generate anything beyond human imagination. Consequently, AI systems are unlikely to have any intrinsic moral, political, or religious beliefs that could influence their creations without substantive human intervention. This is perhaps the main reason why the need to regulate AI systems is seen as a crucial step to safely reap the benefits of AI; as this technology could be eventually biased in its output due to the discriminatory datasets used to train AI models. Considering the inherent risks associated with the technology and its classification as a non-legal entity, it is reasonably unforeseeable that AI systems could be granted independent moral and economic rights, unlike human creators. Further, Narrow AI systems, also referred to as weak AI systems, cannot display general intelligence and are largely dependent on humans: for example, voice assistants, such as Siri and Alexa. Consequently, human intervention is arguably central for the AI system to create its output. Notably, considering the rapid pace of advancement of this technology the capabilities of generative AI models could vary in the future. Since virtual data is at the heart of AI models' operation, there could be competition concerns associated with training AI models, particularly LLMs. The UK's Competition and Markets Authority (a regulatory body concerned with preventing potential anti-competitive practices within the business sector) has raised concerns that businesses that control the data from being accessed by competitors could be deemed anti-competitive because such practices could inevitably minimise the choice of consumers using AI.³¹ Consequently, such practices could not only render the training of AI models in breach of competition laws, but also violate Article 9 of the Berne Convention, as authors of literary and artistic works would be inevitably constrained from licensing their works to the competitors of the company with which the author has previously contracted.

AI systems such as Artificial General Intelligence (AGI) and artificial neural networks (ANN) grant AI systems cognitive abilities of the human brain that enable them to adapt to real-world/real-time situations to make their judgments autonomously, rather than substantially relying on large datasets. However, this technology is not typically used with LLMs such as ChatGpt, Claude, Soundraw, etc., but with robotics and automation, where robotics combined with machine learning allows the robot to perform physical tasks and exercise the cognitive ability to make decisions.³² However, in light of the rapid evolution of this technology, it is not fanciful to argue that AI could autonomously create original works. Subsequently, this raises a crucial question for the technological industry whether they aim to develop this technology to such a degree that would wield the potential to take over humanity.

Notably, the conceptual difference between 'computer-generated' and 'computer-assisted' is that 'computer-assisted' work involves substantive human intervention, unlike computer-generated where there is minimal human involvement. For example, creating a deepfake is highly likely to be classified as computer-assisted work; that is, the computer will mainly play its role as a tool that follows comprehensive instructions of the controller. Similarly, the difference between AI-generated and Computer-generated is merely that the output of an AI-generated work will undoubtedly vary, despite prompting the AI system with similar input.

Why should copyright law protect AI-generated works?

Before we consider the fundamental issues in the principles of UK copyright legislation in the context of protecting AI's work, we should address the question – why copyright law should protect the works of AI. It is essential to acknowledge at the outset that AI (unlike humans) should not be deemed a legal entity because it cannot be held personally liable for its infringing conduct. AI has become capable of substantially assisting humans to create outputs, relying on the nature

³¹ Alan Davis, Tadeusz Gielas, 'CMA outlines initial concerns involving AI foundational models' (Outlaw Pinsent Masons, 19 April 2024) <<https://www.pinsentmasons.com/out-law/news/cma-outlines-initial-concerns-involving-ai-foundation-models>> accessed 3 August 2024.

³² James Tobin, 'Artificial Intelligence (Regulation) Bill [HL]' (House of Lords Library Briefing, 18 March 2024) <<https://lordslibrary.parliament.uk/artificial-intelligence-development-risks-and-regulation/>> accessed 22 July 2024.

of input triggered by the user of the AI model. Notably, the input is not the only source for the AI's output, but is also predicated on the copyrighted datasets used by AI developers during the AI training process. Machine learning algorithms exploit copyrighted literary and artistic works to generate literary or artistic outputs by emulating the style of works used in the training process. This is another issue within the AI and copyright arena, which raises concerns of potential copyright infringement due to substantial reproduction (s.17 of the CDPA 1988) of copyrighted works during the AI training process.³³ Moreover, this raises concerns about the need to remunerate copyright owners for the exploitation of their works during the training process.

On the other hand, it is crucial to consider the fundamental justification for IP protection. It appreciates the creator's time, labour, and expenditure on the intellectual product and it would be unjust for others to blatantly copy new intellectual products.³⁴ The word 'property' implies rights and remedies in respect of the intellectual product for any unjustified interference. The reward theory of IP includes a cycle where those who innovate are rewarded by the grant of property rights, which acts as an incentive for others to innovate. However, as IP law seeks to reward the creator for their time, labour and expenditure, it is imperative to examine whether these justifications could be satisfied if authorship and ownership were granted to the AI system, or the AI user. Morally, it could be argued that it is iniquitous for those who create works through traditional methods (i.e. by the 'sweat of their brow'), compared to those who create works using AI models, as the latter system allows the work to be produced much faster without substantial mental or emotional efforts. Additionally, works created using AI systems arguably undermine the reward theory, as the time and labour expended in creating the works are significantly lower than the conventional means.

In contrast, it is arguably crucial to reward AI users to incentivise technological advancement from an economic perspective. If copyright law fails to reward AI users for their creations, it is likely to disincentivise AI innovation, as AI users might eventually cease to operate AI systems and adopt the traditional method to create literary and artistic works, which could have a detrimental effect on the AI industry.³⁵ This, in turn, may affect negatively on the UK economy, considering that the UK Government has estimated the AI industry's annual contribution to be £4 billion.³⁶ Additionally, if copyright law fails to recognise AI's creativity, it is likely to render the UK's 'National AI Strategy' unbacked.³⁷ Although this might fundamentally raise a question of whether the law ought to remunerate AI users for the machine's creations, it must be highlighted that creating literary and artistic works using generative AI models involves substantive human intervention (pre and post-model development); and rewarding copyright owners for their creativity is perhaps the central function of human art. However, remunerating every such creative user is likely to deprive the legitimacy of copyright protection. Consequently, it is important to design a unique originality threshold for the user's input to allow copyright protection for AI-generated works. Notably, it is difficult to differentiate the AI-created elements

³³ Hrishikesh Chitale, 'The AI and Copyright Conundrum: how should the UK balance rights of copyright owners against AI innovation?' (Coventry Law Blog, 8 July 2024) <<https://law.coventry.domains/uncategorized/the-ai-and-copyright-conundrum-how-should-the-uk-balance-rights-of-copyright-owners-against-ai-innovation/>> accessed 29 July 2024.

³⁴ Brown (n 18).

³⁵ Andreas Rahmatian 'Copyright and artificial intelligence – is there anything new to say?' (2024) 46 European Intellectual Property Review 25.

³⁶ Prime Minister's Office, 'Vote of confidence in UK economy as British AI company Wayve secures over \$1 billion to develop AI for self-driving vehicles' (press release, 7 May 2024) <<https://www.gov.uk/government/news/vote-of-confidence-in-uk-economy-as-british-ai-company-wayve-secures-over-1-billion-to-develop-ai-for-self-driving-vehicles#:~:text=The%20AI%20sector%20also%20already,grow%20to%20over%20%241%20trillion>> accessed 18 June 2024.

³⁷ Department for Science, Innovation & Technology, 'Guidance National AI Strategy' (GOV.UK, 22 December 2022) <<https://www.gov.uk/government/publications/national-ai-strategy/national-ai-strategy-html-version>> accessed 28 July 2024.

from human author-created elements (i.e. the input), which presumably suggests testing the originality of the users' input, rather than the AI's creation.³⁸

Originality

Under the CDPA 1988 to obtain copyright in literary, dramatic, musical, and artistic works, such work must be original.³⁹ However, the CDPA 1988 does not expressly define originality, except in the context of database rights, where the UK implemented the originality test introduced under the EU Database Directive 1996, within the CDPA 1988.⁴⁰ According to Peterson J, the CDPA 1988 does not require that the expression must be an original or novel form, but that the work must not be copied from another work.⁴¹ Moreover, the mere fact of satisfying the originality test does not automatically give rise to copyright if the result does not fall within the subject matter (such as literary, dramatic, musical, and artistic works).⁴² The concept of originality for copyright purposes has predominantly developed through case law in the UK, which established that a test of skill, labour, judgment, and effort must be satisfied for a work to be 'original'.⁴³ The amount of skill, labour, and judgment must be more than minimal or negligible.⁴⁴ However, since the Court of Justice of the European Union's ('CJEU') decision in *Infopaq*, the EU refers to originality as the 'author's own intellectual creation'.⁴⁵ Although this test was originally introduced in EU Directives on software,⁴⁶ and databases, the decision in *Infopaq* harmonised the EU test of originality throughout the Union.⁴⁷ Consequently, the English courts discharged the test of skill, labour, judgment, and effort, and replaced it with the originality requirement falling under the *InfoSoc* Directive.⁴⁸ The UK copyright system arguably had a lower originality threshold requirement to obtain copyright.⁴⁹

This raises the question of whether the test of skill, labour, and judgment is irrelevant. Notably, the Court of Appeal in the case of *SAS Institute* ascertained that the EU originality test does not align with the UK, and stated that:

...if the Information Society Directive has changed the traditional domestic test, it seems to me that it has raised rather than lowered the hurdle to obtaining copyright protection.⁵⁰

In light of Brexit, the UK now arguably holds a unique opportunity to diverge from EU law and the jurisprudence of the CJEU. This could perhaps enable the UK to lower its originality threshold by resurrecting the traditional test of skill, labour, judgment, and effort in the context of conferring copyright protection to users of the AI-generated work.

It is imperative to consider the test of originality in the context of derivative works, as the extent to which a work can be based on another existing work is likely to play a crucial role in the context of AI user's input and the copyrighted works used while training the AI model. Derivative works, which are built on, or copied from, other works, may be subject to copyright if they meet the requirement of originality. Therefore, originality is simply not a matter of not copying but requires the author to demonstrate their independent skill and labour, while copying. For

³⁸ Rahmatian, 'Copyright and artificial intelligence – is there anything new to say?' (n 36) 25.

³⁹ Copyright, Designs and Patents Act 1988 s 1(1)(a).

⁴⁰ *ibid*, s 3A (2).

⁴¹ *University of London Press v University Tutorial Press* [1916] 2 Ch, p 608.

⁴² *George Hensher Ltd v Restawile Upholstery (Lancashire) Ltd* [1976] AC 64.

⁴³ Brown (n 18).

⁴⁴ *Ladbroke v William Hill* [1964] 1 WLR 273.

⁴⁵ Case C-5/ 08 *Infopaq International A/S v Danske Dagblades Forening* [2009] ECJ 465.

⁴⁶ Council Directive 1991/91/EEC of 17 May 1991 laying down the legal protection of computer programs [1991] OJ L 122/42.

⁴⁷ Case C-5/ 08 *Infopaq International A/S v Danske Dagblades Forening* [2009] ECJ 465.

⁴⁸ Council Directive 2001/29/EC of 22 May 2001 laying down the harmonisation of certain aspects of copyright and related rights in the information society [2001] OJ L 167/10.

⁴⁹ Brown (n 18).

⁵⁰ *SAS Institute Inc v World Programming Limited* [2013] EWCA Civ 890, para 37.

example, in an article quoting a legal textbook, the author's choice of words in which he/she expresses the acknowledged source, selection of sources, etc. renders the work not fully derivative. The application of this example is undeniably complex when it comes to generative AI, since it is unclear to the users about the type and the vast number of copyrighted sources the AI system exploits to generate its output. The existing operation of AI systems is unlikely to allow the courts to discern the difference between the closeness of the output generated and the underlying copyrighted work. The case of *Bauman v Fussell*⁵¹ demonstrates that, despite the composition of a subject matter that is closely followed from a preceding copyrighted work, it could yet have its copyright protection simply because of a dramatic difference in the succeeding works. It remains to be seen how the English courts interpret the word 'closeness' in the context of AI's work to discern the difference between the input of the AI user and the data exploited by the AI system to generate its output.

In *Football Dataco and others*,⁵² the judge had to consider a preliminary issue of whether any copyright or database right subsisted in the football fixtures list. Floyd J held that, while lists did not easily fit under the scope of the author's own intellectual creation, the fixture lists were a product of selection or arrangement of data.⁵³ In other words, had the football fixture lists been interpreted from the UK traditional test of skill, labour, judgment, and effort, copyright may have subsisted for the judgment and labour exercised to select and compile the data. This arguably demonstrates that the EU originality test is much more stringent than the traditional UK originality test.⁵⁴ This will inevitably inhibit the plan to provide copyright protection to the user of the AI-generated work. Additionally, since originality is not synonymous with novelty, and copyright extends protection to certain trivial works, such as exam papers, it provokes the question of why copyright law should restrict protection to AI's creativity merely because it is artificial. It is imperative to note that, while copyright law (where originality applies) protects the expression of ideas, patent law (where novelty applies) protects the idea itself. This does not imply that every user who triggers the generative AI model to produce literary or artistic works should be granted copyright protection; as this could arguably undermine the legitimate purpose of copyright protection. For example, if a user prompts an AI system by simply entering: 'write a movie script'. Such a short input is too generic and does not reflect the user's creativity, skill, taste, personal touch, etc. at all. Therefore, the movie script generated by the AI system is unlikely to satisfy the originality test due to the lack of sufficient intellectual creation in the output, thus enjoying no copyright protection. Consequently, such outputs generated as a result of generic inputs should be available for anybody to copy.

Consequently, there ought to be a requisite threshold of originality in the user's input (such as the user's skill, taste, discretion, imagination, being explicative and qualitative in their precise idea, etc.) to mark the AI's creation with the author's personal touch. Notably, once the AI system has generated its output, it is likely to be challenging for a layperson to discern the difference between the user's input and the AI's creation. This requires the recording of the user's input as evidence to enable the English courts to determine whether the requisite originality threshold is present, or if the user's command was too generalised. In other words, there has to be substantial evidence of human intervention in the AI-generated work for the courts to deem the user as the author of the AI's creativity.

This article recommends implementing a separate originality test for AI-generated works, which will consider an AI-generated work original, should the work consist of the user's [i.e. author's] explicative and qualitative expression of the idea. The meaning of the word 'explicative' ought not to be confined by statute, but should remain highly fact-sensitive. However, a broad idea behind the word 'explicative' suggests that the user's input must express more than negligible ingenuity to enjoy copyright protection. The phrase 'more than negligible ingenuity' is likely to

⁵¹ *Bauman v Fussell* [1978] RPC 485 (CA).

⁵² *Football Dataco and other v Britten Pools and others* [2010] EWHC 841 (Ch).

⁵³ *ibid.*

⁵⁴ Brown (n 18).

vary on a case-by-case basis. On the other hand, it is important for copyright law to equally acknowledge AI's contribution, as failing to recognise technological contributions could inhibit innovation. Consequently, while a human being is to be regarded as the copyright owner in the context of potential liability and other enjoyable rights underpinning copyright, such technologically produced property must be acknowledged with a notice expressing the use of AI in work. Additionally, this proposal will require stringent transparency obligations on AI models for the courts to be able to examine the similarity between the AI user's creation and the copyrighted work used in the AI training process, which is indeed a crucial factor to examine in determining the originality of the AI user's work. However, AI users ought not to remain liable should the courts find the AI user's work to be a substantial reproduction of the copyrighted dataset in the training process; as such, a burden of potential liability on users is highly likely to inhibit AI innovation. Moreover, AI users are unlikely to know the underlying data-scraping processes exercised to generate the output.

CDPA's unique provision for computer autonomy

The UK is one of the exceptional states to potentially grant authorship to computer-generated works. Similar provisions exist in the copyright laws of other jurisdictions (such as New Zealand, Ireland, etc.).⁵⁵ Section 9(3) of the CDPA 1988 states that:

In the case of a literary, dramatic, musical or artistic work which is computer-generated, the author shall be taken to be the person by whom the arrangements necessary for the creation of the work are undertaken.⁵⁶

Further, the term 'computer-generated' has been defined as 'works generated in circumstances where there is no human author of the work'.⁵⁷ The CDPA 1988 does not allow an author of a computer-generated work to enjoy moral rights.⁵⁸ While this unrivalled provision does arguably create a potential for copyright protection of works created by AI, it has stirred up issues on the existing 'originality' test, alongside the interpretation of the word 'arrangements' in the context of protecting AI's creativity. In 1988, when the provision for protection of computer-generated works was drafted, AI technology was certainly not as developed as it is today. Arguably, the UK Parliament did not have the intention to protect AI's creativity within the provisions drafted to protect computer intelligence. Consequently, it is pertinent to ascertain the difference between AI-generated works and traditionally recognised computer-generated works (such as weather forecasts generated by computers through a communication link between the computer and weather satellite). The crucial difference is that the output generated by the computer can be predicted and planned accordingly by a programmer due to a predetermined process; in contrast, AI-generated works produce significantly advanced creativity that is not perceived by programmers.

The CDPA 1988 protects unoriginal works for economic purposes.⁵⁹ In the UK such unoriginal works are referred to as entrepreneurial rights (i.e. secondary works), including sound recordings, films, etc. Entrepreneurial works are distinct from author works, that is, authorial works require originality, whereas entrepreneurial works do not. In *England and Wales Cricket Board v Tixdaq*,⁶⁰ Arnold J explained that the objective of entrepreneurial rights is to protect the financial investment, as opposed to protecting the creativity of the author. Considering that computer-generated works are not required to satisfy the doctrine of originality, and the term of protection for such works is 50 years from the date of creation (as opposed to authorial works, where copyright subsists until the end of 70 years from the end of the calendar year in which the author

⁵⁵ Jhy An Lee, 'Computer-generated Works under the CDPA 1988', *Artificial Intelligence and Intellectual Property* (OUP 2021).

⁵⁶ Copyright, Designs and Patents Act 1988, s 9(3).

⁵⁷ *ibid*, s 178.

⁵⁸ *ibid*, s 79(2).

⁵⁹ *ibid*, s 16(3).

⁶⁰ *England and Wales Cricket Board v Tixdaq* [2016] EWHC 576 (Ch).

dies), it could be argued that they should conceptually be protected as entrepreneurial works since they do not contribute their creativity.⁶¹ However, should computer-generated works be classified as entrepreneurial works, it will undoubtedly create intricacies in terms of infringement claims if AI-generated works are presumed to be accommodated within the framework for the protection of computer-generated works. Notably, entrepreneurial works are confined to the format the work is fixed. Consequently, if a computer-generated work is categorised as entrepreneurial work, then a realistic claim for infringement can only be founded in the form in which the work is fixed. Consistently, an AI-generated work will remain fixed in the format it generates. For example, if an author of an AI system generates a piece of fiction and someone subsequently produces a film that is substantially similar to the fiction, the author of the AI-generated work is highly unlikely to have a realistic claim for infringement.

The copyright protection for computer-generated works creates scope for uncertainty regarding who made the necessary arrangements in the context of an AI system. The word ‘arrangement’ merely suggests that some level of preparation would be required to trigger the AI system to generate its output.⁶² However, the provision remains silent on the degree of arrangement required, which arguably renders it more difficult for AI’s creations to enjoy copyright protection under this provision. Moreover, s.9(3) fails to identify the person who ought to be deemed making the necessary arrangements (i.e. the author), considering the varied arrangements involved from the software programmer and the user. Although there has been insufficient case law on s 9(3), there is one judgment on this matter as of date. In *Nova Productions Ltd v Mazooma Games Ltd & Ors*,⁶³ the High Court held that the video game’s programmer who undertook the necessary arrangements – the claimant wrote the code underlying the computer program) for the computer to generate its work – was deemed to be the copyright owner, rather than the player of the video game who had undertaken no necessary arrangements in the creation of the images, but was merely a player in the game. Unfortunately, the High Court did not clarify the word ‘arrangements’. Additionally, the judgment in *Nova* is likely to be unsuitable in the context of copyright protection for AI’s creativity, as the role of a video game player against the user of an AI model is significantly distinguishable.⁶⁴ This is because there is an inevitably degree of creativity (such as deciding accurate commands to generate the desired outcome) associated with the use of the AI system. The provision for the protection of ‘computer-generated’ works was drafted in the 20th century and, therefore, is unlikely to cope with the rapid technological developments in machine learning.

Authorship

For this article, ‘AI-generated’ is hereinafter defined as, generative AI models that produce literary, or artistic works (i.e. output) in consequence of the user’s prompt (i.e. input), including those models that are trained using large datasets, that is, with substantial human intervention. The definition excludes those AI systems capable of autonomously creating works (i.e. without substantial human intervention) to generate its output. According to the CDPA 1988, ‘an ‘author’ in relation to a work, means the person who creates it’.⁶⁵ The definition undoubtedly refers back to the anthropocentric nature of copyright law by implicitly classifying a person as a human being, as opposed to a machine.⁶⁶ As discussed above, the CDPA 1988 deems the author of a

⁶¹ Jhy An Lee, ‘Computer-generated Works under the CDPA 1988’, *Artificial Intelligence and Intellectual Property* (OUP 2021).

⁶² Li (n 24) 99.

⁶³ [2007] EWCA Civ 219.

⁶⁴ Don McCombie, James Wong, Chris Ireland, ‘What’s wrong with this picture? AI-created images and content: copyright ownership and infringement’ (Clifford Chance, 14 March 2023) <<https://www.cliffordchance.com/insights/resources/blogs/talking-tech/en/articles/2023/03/whats-wrong-with-this-picture-ai-created-images-and-content-copyright-infringement.html>> accessed 27 July 2024.

⁶⁵ Copyright, Designs and Patents Act 1988, s.9(1).

⁶⁶ Rahmatian, ‘Copyright and artificial intelligence – is there anything new to say?’ (n 36) 25.

computer-generated work as the person who made the necessary arrangements, which is *prima facie* a suitable framework for AI-generated works.⁶⁷

However, the definition of ‘author’ in computer-generated works is perhaps too broad to protect AI-generated works, since it will potentially obscure the essential element of authorship. Simply accommodating copyright protection to AI-generated works under the framework designed for the protection of computer-generated works granted under s.9(3) of the CDPA 1988, could pose considerable challenges in determining the author of AI’s output, and make it difficult to ascertain whether the developer or user ought to be the copyright owner. The decision in *Nova* indicates that the author of an AI-generated work should be deemed the AI developer and not the user.⁶⁸ However, logically, a mere video game player ought to be distinguished from the user of a generative AI model, as the user substantially exercises his/her creativity within the input and thereby holds a direct causal link between the AI’s output and the user’s input.⁶⁹ In other words, the user is closer to the AI’s output than the developer. Consequently, the generative AI model is unlikely to produce any output simply based on its underlying datasets and machine-learning algorithms, as arguably the loop of reinforcement learning from human feedback (RLHF), demonstrates the substantial role of the user in prompting the AI system to generate bespoke outputs.

This article suggests that the author of the AI-generated work ought to be the user rather than its developer, since there is no direct nexus between the work created and the AI developer’s underlying technical arrangements. The AI developer’s relationship with the AI model is akin to the relationship between a child and his/her mother. For instance, when a mother gives birth to a child it does not necessarily mean that a mother has enough contribution in her child’s intellectual creation. Since programmers merely give birth to the AI model (i.e. doing the same job as the mother) and since a mother is not granted authorship for her child’s intellectual creation, there does not appear to be any persuasive argument to depart from this approach for developers.

Further, the idea of joint authorship between the user and the AI developer is perhaps fallible, as the contribution of each person would be distinct, thereby falling outside the remit of joint authorship defined under the CDPA 1988.⁷⁰ Notably, in 2022, the UK Intellectual Property Office (UKIPO) consulted on potential reforms to copyright law to seamlessly accommodate works created using AI technology.⁷¹ The government’s response to the consultation concluded that considering the nascent stage of this technology, it was arguably too early to amend existing law on subsistence or ownership of copyright in computer-generated works. On the other hand, the government also indicated that the law will be subject to amendments should there be substantial evidence indicating the need to do so. Nevertheless, considering the unprecedented development in machine learning technology, it poses a substantive risk of exploitative use. For instance, the track ‘heart on my sleeve’ which sounded like it was being sung by Drake and Weekend, while in fact, an AI tool was used to clone their voices, or any such voice manipulations arguably insinuates the UK to review its decision.

Further, should the UK copyright law confer protection to the user of the AI model, any contractual terms from the AI developers that purport to withhold copyright protection in the literary or artistic works created by AI, as a result of the user’s prompt, should be rendered void. In contrast, where the AI developer remains silent on the terms purporting copyright protection, the user of the AI should be deemed to be its copyright owner. Interestingly, the terms and

⁶⁷ Li (n 24) 99.

⁶⁸ *Nova Productions Ltd v Mazooma Games Ltd* [2007] EWCA Civ 219.

⁶⁹ Söğüt Atilla, ‘Dealing with AI-generated works: lessons from the CDPA section 9(3)’ (2024) 19 Journal of Intellectual Property Law and Practice 43.

⁷⁰ Copyright, Designs and Patents Act 1988, s 10(1).

⁷¹ UK Intellectual Property Office, ‘Artificial Intelligence and Intellectual Property: copyright and patents: Government response to consultation’ (28 June 2022) <<https://www.gov.uk/government/consultations/artificial-intelligence-and-ip-copyright-and-patents/outcome/artificial-intelligence-and-intellectual-property-copyright-and-patents-government-response-to-consultation#overall-conclusion>> accessed 29 July 2024.

conditions of ChatGpt clarify ownership rights,⁷² regarding the user responsible for the output generated by the AI model as the author.⁷³ This raises an interesting question of whether ChatGpt's exclusion clause could hold the user potentially liable if they prompt the AI system to generate such output that inevitably infringes copyright in an existing work (for example, 'create music using 'Dua Lipa's' style'). Notably, the idea of deeming the user being deemed as the copyright author of the AI's creativity is suggested with humans as the *sine qua non* in creating generative works, until further evolution is witnessed within this cutting-edge technology.

Although the above proposals may appear to neglect the AI developer's contribution to developing the AI model, they can claim copyright protection separately for the underlying computer program as literary works under the CDPA 1988.⁷⁴ While the computer-generated framework under the CDPA 1988 appears *prima facie* to be the most appropriate framework for copyright protection of AI-generated works, it consists of certain loopholes that arguably render it unsuitable in the context of AI's creations. Instead, the CDPA 1988 should establish a distinct framework specifically for the authorship of AI-generated works, while upholding human creativity at the heart of the legislation.

Term of protection for AI's creativity

In the UK, copyright for literary, dramatic, musical and artistic works is protected during the life of the author plus 70 years after the author's death (post mortem auctoris).⁷⁵ However, the term of copyright differs between sound recordings, films and computer-generated works, etc. The copyright protection to works that are computer-generated ceases at the end of 50 years from the date on which the work was created.⁷⁶ Although copyright is unlikely to be vested in machines, since they are non-human actors, if copyright for works generated by machines were to be vested in the machine itself, then the term of copyright protection for AI's creations could have been perhaps perpetual. The CDPA 1988 does not consider the author of a computer-generated work equally as opposed to human-created works, since it arguably believes that the author of the computer-generated work lacks adequate intellectual contribution and personal touch that of the author of traditionally created literary or artistic works.⁷⁷ Should the duration of copyright granted for computer-generated works be obtained for AI-generated works, it is likely to disincentivise innovation, as authors are likely to adopt the conventional means for creating literary, musical, or artistic works than using AI to ensure that the term of protection for the works created is for their lifetime plus 70 years. Moreover, the term of protection for computer-generated works is unsuitable for AI-generated works, as the output of the AI system continuously evolves due to machine learning and new data input. Whereas the output of a computer-generated work is unlikely to vary in the same project of computer-generated works (for example, a particular photograph captured by a satellite is highly unlikely to refine the same photograph by advancements in the satellite's ability to capture photographs).

However, this does not necessarily mean that copyright protection for AI-generated works should be conferred for the AI user's lifetime plus 70 years. Considering that it is reasonably foreseeable for creators to use AI systems for most of their creations, the term of protection ought to be such that will balance between recognising the AI-generated work against avoiding copyright stockpiling, which could undermine the creations of authors who created the work by traditional means. The UK is arguably failing to uphold its AI strategy by delaying establishing its stance on copyright protection for AI-generated works. However, to resolve the issue of the term of copyright protection for such works, and to adequately recognise the intellectual creation of the

⁷² Ashley Moore, Annelise Raymond Alam, Enrico Trevisani, 'Taylor Swift, AI and the copyright conundrum' (Thomson Reuters 1 May 2023) <https://www.reuters.com/legal/legalindustry/taylor-swift-ai-copyright-conundrum-2023-05-01/> accessed 29 July 2024.

⁷³ *ibid.*

⁷⁴ Copyright, Designs and Patents Act 1988, s 3(1)(b).

⁷⁵ Copyright Designs and Patents Act 1988, s 12(2).

⁷⁶ *ibid.*, s 12(7).

⁷⁷ Li (n 24) 99.

author of an AI-generated work (provided the work satisfies the originality test), the author proposes that the term of protection ought to be until the death of the author. While this proposal arguably undermines the fact that copyright also plays a crucial role in providing income to the heirs of the author, it is imperative to consider two points: (i) there is comparatively lesser intellectual creation or efforts to create works using AI generated models; and (ii) AI technology is at a development stage. Copyright law should indeed remain adaptable to the evolution in this industry sector and address such gaps as the ambiguities in this technology gradually crystallise.

This arguably seeks to strike a balance between the authorship of an AI-generated work and the authorship of works created by traditional methods, as the proposed term would seek to reasonably recognise the intellectual contribution of the user of the AI model while upholding the anthropocentric nature of copyright law. The CDPA 1988 could impose obligations on AI developers to maintain transparency, except where this would be impossible for reasons of practicality or otherwise. Such transparency obligations ought to require acknowledging the use of AI in the literary, dramatic, musical, or artistic works created, and recognise the human author associated with the work. Additionally, this disclosure of AI's assistance in the work is likely to mitigate the risk of duplicate outputs generated by AI as a result of similar inputs entered by two different users.⁷⁸ Moreover, such transparency will allow the courts to examine the originality of the alleged work and consider whether the work in question is a substantial reproduction of an existing work exploited in the AI training stage. Further, this will ensure that the AI system notifies the subsequent user that a substantially similar output has already been created by another user; thereby blocking users from claiming multiple copyrights for similar outputs. Notably, this issue has also been appreciated by developers. Developers have begun to set abstract parameters in the algorithms rather than concrete parameters that prevent the AI system from creating the same result.⁷⁹

Conclusions

The development of AI tools to produce literary and artistic works has created challenges in the copyright arena, despite its versatile nature in recognising diverse methods of creativity, particularly in the context of the digital era. While human creativity has long been at the heart of copyright law, the rapid development in the capabilities of technology suggests copyright law might have to depart from its anthropocentric nature by conferring copyright to the user of the AI's creativity. This will encourage individuals to produce material using AI and incentivise innovation, thereby leading to significant growth in the UK economy. Additionally, this will allow artists to create literary, dramatic, musical, and artistic works faster than the traditional methods as a result of machine learning technology.

Considering the rise in the use of AI models for creative purposes, it is crucial for the UK to introduce a framework to adapt to these technological advancements. However, the UK Parliament should arguably avoid accommodating copyrights to AI-generated works within s.9(3) of the CDPA 1988, as AI was merely a concept when the UK Parliament drafted the provision for the protection of computer-generated works. Further, conferring copyright protection to the AI developer, as opposed to the user, could arguably disincentivise the user from creating works using AI models, as their creativity will be left unrewarded. Moreover, this could break the causal link between the user's contribution and the machine's creative output. Consequently, Parliament could consider granting copyright to the user and focus on revising the threshold of authorship, doctrine of originality, duration and copyright protection, particularly in the context of AI's involvement. However, any future legislative changes in the AI & IP arena ought to be flexible and respond to the practical developments in this evolving technology. Unlike the limited case law in the protection of computer-generated works, it is highly likely for the

⁷⁸ 'Generative AI- the copyright issues' (Simmons & Simmons, 25 April 2023) <<https://www.simmons-simmons.com/en/publications/clgxkqd5z000utrj8zuuc5cms/generative-ai-the-copyright-issues>> accessed 30 May 2024.

⁷⁹ Li (n 24) 99.

copyright arena to encounter proliferating litigation regarding the copyrightability of AI or claims for alleged infringement of copyrighted works; as existing works are being exploited by developers to train AI models. Legislative clarity is likely to assist courts in interpreting the extent to which copyright law will depart from ‘human creativity’ to recognise AI’s creativity. All proposals will indeed require significant appraisals and deliberations pertaining to procedural and administrative matters for them to operate seamlessly.