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**DIRECTION OF THE COPYRIGHT ACT 1994 IN VIEW
OF ARTIFICIAL INTELLIGENCE**

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Abstract

This paper aims to support the New Zealand government in the process of reviewing the Copyright Act 1994, to achieve the best outcomes for the New Zealand economy and copyright law.

This paper examines four distinct policy positions that New Zealand could adopt when addressing AI works through the lens of copyright and how these policy positions could influence the amendment of the Copyright Act 1994. The rapid development and commercialization of artificial intelligence have led to a surge in AI-generated and AI-assisted works that vary in the level of human intervention. The blurred line between human creativity and AI creativity requires the amendment of the Copyright Act 1994 depending on the policy stance the legislature decides to take.

The paper provides legislative suggestions on three levels. Firstly, it argues for the need to define the term "AI" in the Act and to differentiate between "AI-generated" and "computer-generated" works. Secondly, the paper examines the two authorship stances New Zealand may adopt to support these policy positions. Thirdly, it explores how the endorsement of each policy position could affect the requirements of originality and fair dealing in copyright law. The four policy options include the full protection regime, the human expression regime, the licensing regime, and the significant originality regime. Each suggestion considers the legal frameworks of the USA, EU, and the UK. However, the paper does not delve into a normative discussion of AI and the Copyright Act 1994 but rather approaches the topic from a pragmatic standpoint.

Word length

The text of this paper (excluding abstract, table of contents, footnotes and bibliography) comprises approximately 7999 words.

Subjects and Topics

Artificial Intelligence-Originality-Copyright Act 1994- "computer-generated"-Generative AI.

I Introduction

This paper analyses how the Copyright Act 1994 might be adapted to accommodate works created by artificial intelligence. AI raises several different policy issues for domestic copyright law systems. These include how to identify the authors of AI-generated works;¹ how to accommodate works that are created partly by human authors and partly by AI;² how to accommodate works that are fully AI-generated with minimal or no human author;³ whether there should be a standard distinguishing human expression to AI expression;⁴ or whether there should be specific defences for machine learning and AI inputs.⁵

While the policy choices that sit behind these issues are complex, the available policy positions are relatively limited in scope.⁶ For example, AI-generated works are either within the scope of domestic copyright law protection or are not. As for machine learning, a domestic copyright system could treat this as an infringement, provide a defence, or adopt a halfway house, such as a compulsory licence.⁷ Authorship of AI-generated works either belongs to the user, the

¹ Han Wan "Authorship of Artificial Intelligence-Generated Works and Possible System Improvement in China" (2023) 14 Beijing Law Review 901 at 905.

² Blake Brittain "U.S. Copyright Office says some AI-assisted works may be copyrighted" (16 March 2023) Reuters < <https://www.reuters.com/world/us/us-copyright-office-says-some-ai-assisted-works-may-be-copyrighted-2023-03-15/>>.

³ Ryan Abbott and Elizabeth Rothman "Disrupting Creativity: Copyright Law in the Age of Generative Artificial Intelligence" (2022) Florida Law Review, Forthcoming at 31.

⁴ Daniel Gervais "Chapter 2: The human cause" in Ryan Abbot (ed) Research Handbook on Intellectual Property and Artificial Intelligence (Edward Elgar Publishing, UK, 2022) at 34.

⁵ Stephanie Woods "Creative Commons - A Useful Development in the New Zealand Copyright Sphere?" (2008) 14 CantaLR 31 at 44.

⁶ Intellectual Property Office "Artificial Intelligence and Intellectual Property: copyright and patents: Government response to consultation" (28 June 2022) Gov.UK < <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>> at [21]-[26].

⁷ Ariel Soiffer and Aric Jain "Copyright Fair Use Regulatory Approaches in AI Content Generation" (August 8 2023) Tech Policy Press <https://techpolicy.press/copyright-fair-use-regulatory-approaches-in-ai-content-generation/>.

developer or the AI itself.⁸ A standard distinguishing AI from human expression either does or does not exist; if it did exist, the standard is either a question of degree or absolute. Whatever policy position New Zealand eventually adopts for these questions, the Copyright Act 1994 would need to be adapted to accommodate them. This paper considers how this might be done. To that end, the paper examines five policy questions. The first policy provides full protection of all AI-generated and AI-assisted works. Although the first policy is most consistent with the legislative language, detailed changes in authorship and originality are required to allow the Act to remain relevant to the fast-paced development of artificial intelligence. Second, the policy restricts protection to AI-assisted works or AI-generated works with significant human expression. Reformulation of the scope of authorship and originality will likely be needed. Third, the policy protects AI-generated and AI-assisted works that do not infringe other copyrights — it focuses on the AI input, unlike other policies. The insertion of a new section for AI input and copyright will reduce uncertainty in the Act. Fourth, the policy requires significant originality beyond the current originality threshold. Similar to the first policy, any implication of human expression requirement needs to be eliminated and the originality standard elaborated.

This paper does not engage with the normative debate as to which position New Zealand should adopt as a matter of copyright policy. Instead, it examines the amendments that would need to be made to the 1994 Act considering these choices.

Part II presents a general overview of the issues that arise with copyright following the emergence of AI. Part III defines the key terminologies and concepts of this paper. Part IV discusses whether “computer-generated” includes AI. Part V establishes the aims of each policy. Part VI provides how authorship of AI-generated and AI-assisted works would change according to the five policies. Part VII analyses how the five policies may be translated legislatively through the Copyright Act 1994. Part VIII synthesises Part V and answers the question of the paper.

II AI and Copyright: A Brief Overview of the Issues

⁸ Kalin Hristov “Artificial Intelligence and the Copyright Dilemma” (2017) 57 IDEA 431 at 443.

Campari Red Diaries: Fellini Forward (“*Campari*”) was created using an AI created by the production studio, UNIT9. *Campari* is a specific short film published in 2021 which prominently illustrates the extent of AI development. *Campari* is copyrighted with three individuals retaining directorial credits. However, *Campari* does foreshadow potential issues for AI copyright. The UNIT9 AI was used to analyse Fellini’s past movies and scripts to extract Fellini’s signature characteristics and patterns, thereby generating “Felliniesque” film suggestions from the extracted data.⁹

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The fast development of generative-AI poses problems on the application of the Copyright Act 1994 (the Act). First, the scope of copyright protection becomes an issue. Currently, s 5(2)(a) of the Act allows “computer-generated” LDMA works to be copyrighted. Although courts may interpret “computer-generated” to include AI-works, the Act remains silent on the definition of “artificial intelligence system” (AI) and whether “computer” includes “AI”. The definition is paramount to defining the scope of copyright protection for AI-works. Therefore, for legal clarity and certainty, the Act needs to specify the relationship between “computer” and “AI”, and subsequently define “AI”, before making any legislative amendments to reflect New Zealand’s new AI policy. The AI definition issue is dealt with under Part VI.

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Second, authorship becomes an issue. Section 5 of the Act currently classifies requirements to be an author of a particular category of work. For literary, dramatic, musical, or artistic works (LDMA), sound recordings and films, the author is the person who undertakes the “arrangements necessary” for the output.¹⁰ For communication works, the author is “who makes the communication work”.¹¹ For typographical arrangements, the author is the publisher.¹² This is not an issue for AI-assisted works, for instance where the AI merely assists human decision-making, because the primary creator will remain the human.¹³ However, s 5 becomes

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⁹ SC Stuart “Can AI Direct Movies? This One Just Did” (3 September 2021) PCMag Australia <<https://au.pcmag.com/news/89283/can-ai-direct-movies-this-one-just-did>>.

¹⁰ Copyright Act 1994, s 5(2)(a) and (b).

¹¹ Section 5(2)(c).

¹² Section 5(2)(d).

¹³ Leah Chong and others “The Evolution and Impact of Human Confidence in Artificial Intelligence and in Themselves on AI-Assisted Decision-Making in Design Decision-making assistance” (2022) 145 ASME 031401 at 1.

problematic for AI-generated works where the AI is the primary creator of the output. Following s 5 wording, if an AI, rather than the user, were to undertake the relevant arrangements, make the work or act as the “publisher”, the AI would be the legal author. However, the s 5(3) restriction of “person” to a natural person or body corporate, AI-generated works may be legally authorless. Therefore, the amendments to the Act must redefine authorship. The authorship issue is dealt with under Part VII.

Third, the originality of AI-works becomes an issue. AI is designed to replicate human intelligence. There has not been a need to determine whether the originality requirement applies to non-human entities as no other non-human entities could replicate human “labour, skill or effort”¹⁴. Therefore, to clarify the bounds of copyright, the Act will need to clarify whether AI activities can amount to “labour, skill or effort” to constitute originality;¹⁵ if so, whether humans need to be the primary driver of creative choice; and if not, whether the minimal human intervention, such as providing prompts, amount to sufficient “labour, skill or effort” to constitute originality.

Furthermore, contingent on the “labour, skill or effort” issue is the infringement issue for AI-generated works. The Act enables the use of copyrighted work without permission if the copied or used work is not a “substantial” part of the work; if the new work is a transient reproduction of a copyrighted work which are integral to the technological communication process and has no independent economic significance; or if the Act specifically provides an exception to the infringement including “fair dealing” exceptions, educational uses, and specific works, uses or purposes.¹⁶ The originality issue is dealt with under Part VIII.

III Key Terminologies and Concepts

¹⁴ Henkel KgaA v Holdfast New Zealand Ltd, [2006] NZSC 102 at [37] per Tipping J.

¹⁵ Martin Senfileben and Laurens Buijtelaar “Robot creativity: an incentive-based neighbouring rights approach” (2020) 42(12) EIPR 797 at 803.

¹⁶ Copyright Licensing New Zealand “Fair Dealing in New Zealand” (online ed, 2020) <www.copyright.co.nz/downloads/assets/5212/1/fact-sheet:-fair-dealing-in-new-zealand.pdf> at 1-2.

A Artificial Intelligence (AI) Works

AI works include AI-generated works and AI-assisted works for this paper. The World Intellectual Property Organisation (“WIPO”) defined AI copyright terminologies in 2020.¹⁷ ‘AI-generated work’ entails the creation of works by AI without human intervention. AI remains flexible and independent in unanticipated situations during the creation of a work. In contrast, ‘AI-assisted works’ are generated by AI with material human intervention and/or direction.¹⁸ Generative AI (GAI) are a subset of machine learning or deep learning AI that uses its database to generate an output resembling human-created content according to a given prompt. GAI essentially matches user prompts to the data sets. A prominent example of GAI is ChatGPT.¹⁹ Machine learning (ML) is a subset of AI. It is a key factor for generative-AI. ML algorithms exhibit “learning” associated with human intelligence through analysing large data sets to be able to make autonomous decisions and outputs.²⁰ AI inputs and outputs are also relevant. ‘AI outputs’ can be defined as “inventions, works, designs and trademarks”²¹ created by the use of an AI, regardless of the degree of application. For present purposes, however, ‘AI output’ analysis will be restricted to ‘AI works’.²² ‘AI inputs’ involve “machine and human-based”²³ data imported into the AI program that provides the basis for the creation of an AI output.

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¹⁷ WIPO Secretariat *Wipo Conversation On Intellectual Property (IP) And Artificial Intelligence (AI)* (WIPO, WIPO/IP/AI/2/GE/20/1 Rev, May 2020) at 3-4.

¹⁸ At 4.

¹⁹ Te Tari Taiwhenua, National Cyber Security Centre, Stats New Zealand “Initial advice on Generative Artificial Intelligence in the public service” (July 2023) digital.govt.nz <www.digital.govt.nz/assets/Standards-guidance/Technology-and-architecture/Generative-AI/Joint-System-Leads-tactical-guidance-on-public-service-use-of-GenAI-September-2023.pdf> at 3.

²⁰ J Matthew Helm and others “Machine Learning and Artificial Intelligence: Definitions, Applications, and Future Directions” (2020) 13 *Curr Rev Musculoskelet Med* 69 at 69.

²¹ Seungwoo Son, “Definitions” (paper presented to the WIPO Conversation on Intellectual Property (IP) and Artificial Intelligence (AI) Second Session, Virtual, July 2020) at 2.

²² At 2.

²³ National Artificial Intelligence Act 2020 15 USC § 9401(3).

'Open-source AI system' is relevant to the licensing policy. Parliament Committee on Legal Affairs stated that 'open-source AI systems' are "AI systems, including test and training data, or trained models, distributed under open licenses."²⁴

An adaptation is 'inherently synthetic ... resulting from the combination of one or more works'.²⁵ The Copyright Act 1994 explicitly bars the production of adaptations for LDMA works.²⁶ Unlike transformative works which significantly alter or add a new analysis or message to the original work, adaptations are "substantially similar" to the original work.²⁷

B "AI" vs "Computer-Generated" Works

AI is an emerging technology that has yet to be legally defined in New Zealand, unlike other jurisdictions.²⁸ New Zealand statutes remain silent on AI. They merely define "computer-generated" works as "generated by computer in circumstances such that there is no human author of the work."²⁹

The UK legislature has recently confirmed that "computer-generated," which is identical to that of the Act, allows for AI works to be protected regardless of the existence of a human author.³⁰ However, the term "computer-generating" is limited to "literary, dramatic, musical or artistic works" ("LDMA").³¹ One interpretation would be the current legislation only allows for the full protection of AI-generated LDMA works.

²⁴ European Commission, Proposal for a Regulation of the European Parliament and of the Council Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act) and Amending Certain Union Legislative Acts (COM(2021) 206 final) at art 3(1b).

²⁵ Zachary Katz, 'Pitfalls of Open Licensing' (2005) 46 IDEA 391 at 400.

²⁶ Copyright Act 1994, s 34.

²⁷ Copyright Licensing New Zealand "Is your work derivative or transformative?" (26 June 2023) <www.copyright.co.nz/about/news-and-blog/is-your-work-derivative-or-transformative>.

²⁸ See National Artificial Intelligence Act 15 USC § 9401(3); National Security and Investment Act 2021 (Notifiable Acquisition) (Specification of Qualifying Entities) Regulations 2021 (UK) (Schedule 3), s 1; and National Strategy for the Development of Artificial Intelligence 2019, s 5(a).

²⁹ Copyright Act 1994, s 2.

³⁰ Intellectual Copyright Office "Artificial Intelligence and Intellectual Property: copyright and patents" (GOV.UK, Consultation outcome, 28 June 2022).

³¹ Copyright Act, s 5(2)(a).

However, the paper argues that “computer-generated” was omitted for “sound recordings or film”,³² “communication work”³³ and “typological arrangement”³⁴ not to exclude them from AI copyright protection but because they already require computers to be generated. Unlike LDMA, the latter categories of work are difficult or against their nature to be created by hand. The endorsement of the latter interpretation means “computer-generated” would only protect “AI-assisted” works, rather than “AI-generated” works.

C Non-AI Terminology

Fair dealing’ is a legal exemption allowing restrictive use of copyrighted material without the permission of a copyright holder as long as it is fair.³⁵ Assessing what qualifies as fair dealing involves considering similar factors to fair use, including the nature of the use, its purpose, the extent of material used, the significance of the portion used, the potential impact of the use on the market and the original work value, and its availability.³⁶ The general New Zealand’s fair dealing system is a combination of fair dealing exceptions (a fair and specified purpose) and specific rule-based exceptions (conditional exception).³⁷

The fair dealing and fair use doctrine are relevant to all policies due to the nature of generative-AI. While fair dealing defines permitted uses of copyrighted material, fair use defines a set of requirements to determine whether the infringement is ‘fair’.³⁸ ‘Fair use’ is a flexible framework, incentivising digital innovation for the creative outputs and specific nature of its

³² Section 5(2)(b).

³³ Section 5(2)(c).

³⁴ Section 5(2)(d).

³⁵ Copyright Act 1994, ss 42 and 43; and Deloitte “Copyright in the Digital Age: An Economic Assessment of Fair Use in New Zealand” (March 2018) <<https://www2.deloitte.com/content/dam/Deloitte/nz/Documents/Economics/dac-nz-copyright-fair-use.pdf>> at 14.

³⁶ Karen Workman “What’s Fair Use, and does it apply in NZ?” (11 April 2022) Copyright Licensing New Zealand <www.copyright.co.nz/about/news-and-blog/whats-fair-use-and-does-it-apply-in-nz>.

³⁷ Deloitte, above no 35, at 14.

³⁸ Workman, above no 36.

contents.³⁹ Fair use is generally used in the US. New Zealand applies a ‘fair dealing’ regime.⁴⁰ ‘The paper will rely on different fair use doctrines to determine whether to establish a new fair dealing exception for AI.

‘Originality’ and ‘authorship’ are the two contentious elements of copyright for the policies and respective amendments of the Act. First, the nature of copyright requires the originality of protected works. A work is unoriginal if it is “a copy of another work or if it infringes, or to the extent it infringes, another’s copyright.”⁴¹ The originality threshold in common law requires more than minimal “labour, skill or effort.”⁴² Second, an ‘author’ creates the work. Section 5(3) of the Act currently limits ‘authors’ to “a natural person or a body corporate.”⁴³

IV Defining “Computer-Generated” and Copyright Act 1994

Regardless of the policy measure implemented, it is legally crucial to define “AI” and related terminologies for the clarity of the Act. For general flexibility, a caveat can be added which provides discretion to judges to apply the definition according to changes and time.

The United Kingdom Intellectual Property Office (“UKIPO”) is an executive agency responsible for intellectual property rights in the UK.⁴⁴ UKIPO interprets “computer-generated” to include current AI-works. However, the UK has separately defined AI as:

...technology enabling the programming or training of a device or software to — (i) perceive environments through the use of data; (ii) interpret data using automated processing designed to approximate cognitive abilities; (iii) make recommendations, predictions or decisions; with a view of achieving a specific objective.⁴⁵

Other jurisdictions including the USA and EU also distinguish “AI” from other technologies. The US defines AI as a “machine-based system that can, for a given set of human-defined

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³⁹ Deloitte, above no 35, at viii.

⁴⁰ Workman, above no 36.

⁴¹ Copyright Act 1994, s 14(2).

⁴² *Henkel*, above no 14, at [37] per Tipping J.

⁴³ Copyright Act 1994, s 5(3).

⁴⁴ Intellectual Property Office "About us" GOV.UK <www.gov.uk/government/organisations/intellectual-property-office/about>.

⁴⁵ National Security and Investment Act 2021(UK), s 1.

objectives, make predictions, recommendations or decisions influencing real or virtual environments.”⁴⁶ The EU defines AI system as:

...software that is developed with one or more of the techniques and approaches listed in Annex I and can, for a given set of human-defined objectives, generate outputs such as content, predictions, recommendations, or decisions influencing the environments they interact with.⁴⁷

The ambiguity of “computer-generated” and foreign governments’ choices to implement definitions for AI increases the need for New Zealand to distinguish “computer” from “AI systems.” Which AI interpretation to adopt comes after defining “AI”. The distinction promotes legal certainty and flexibility to maintain current policies by being able to address the potential development of “wide AI”⁴⁸ even if “computer-generated” is sufficient to protect “narrow AI” work presently.⁴⁹

For example, a new definition can be added under s 2(1) (Interpretation). The distinction, along with other amendments, will exclude AI-protection under s 5(2)(a). For example, a “computer” may be defined as a “data processing device performing logical, arithmetic, or storage functions, [with] data storage facility or communication facility.”⁵⁰ An “AI system” may be defined as “software developed with [machine-learning or other similar techniques], for [specific] human-defined objectives, generate outputs [not limited to] content, predictions, recommendations, or decisions influencing the environments they interact with”.⁵¹

V Five Policies: Description

A Full Protection Regime

The first approach entails a universal expansion of the ambit of copyright protection. The full protection regime stems from the economic premise of copyright to promote and propagate the

⁴⁶ National Artificial Intelligence Act 15 USC § 9401(3).

⁴⁷ European Commission (COM(2021) 206 final), above n 24, at art 3(1).

⁴⁸ Son, above n 21, at 1.

⁴⁹ Intellectual Copyright Office, above no 30.

⁵⁰ 18 USC § 1030(e)(1).

⁵¹ European Commission (COM(2021) 206 final), above n 24, at art 3(1).

creative market.⁵² This is the only regime that would negate any necessity for human involvement. In other words, the law will shift away from ‘human exceptionalism’, an ideology which has existed in the copyright law since Rene Descartes.⁵³

Under this new regime, any newly originated work by an AI would be deemed to have sufficient reason to be copyrighted, regardless of individuality or personality.⁵⁴ It would protect both AI-assisted works and AI-generated works. Not protecting AI works would deny “the incentive of copyright to an increasingly large group of works that are indistinguishable in substance and value from works created by human beings.”⁵⁵

The universal application of copyright, regardless of human involvement, removes any obscurity which surrounds other copyright regimes focusing on ‘human expression’ or originality. Endorsing AI-generated works eliminates any question of degree. It is more efficient.

B Human Expression Regime

The second policy of human expression restricts the scope of copyright to all human-created works. It adheres to the longstanding assumption of copyright law that an author needs to be a “human.”⁵⁶ Copyright has historically focused on the human mind whether as a natural right, human right, or an economic incentive.⁵⁷

Under this new regime, any newly originated work by an AI would be deemed to have reason to be copyrighted, only if the human has contributed a significant portion of the work. The threshold restricts “works produced by a machine or mere mechanical process that operates

⁵² Stephen Breyer “The uneasy case for copyright: a study of copyright in books, photocopies, and computer programs” (1970) 84 HarvLRev 281 at 282.

⁵³ Abbott and Rothman, “Disrupting Creativity”, above no 3, at 31.

⁵⁴ Takashi B. Yamamoto, “AI Created Works and Copyright” (2018) 48(1) Patents & Licencing 1 at 8.

⁵⁵ Robert Denicola “Ex Machina: Copyright Protection for Computer-Generated Works” (2016) 69 RutgersLRev 251 at 283.

⁵⁶ Sam Ricketson “People or Machines: The Berne Convention and the Changing Concept of Authorship” (1991–2) 16 ColumJL&Arts 1 at 8.

⁵⁷ Gervais “Chapter 2: The human cause”, above n 4, at 34.

randomly or automatically without any creative input or intervention from a human author.”⁵⁸ It limits copyright protection to AI-assisted works. The US and EU jurisdictions retain copyright law policies that are the closest to the human expression regime. It addresses the risk of AI replacing humanity in creating work.⁵⁹ Therefore, the policy focuses on incentivising human creativity through copyright.⁶⁰ Furthermore, the consistency between “human expression” and human originality promotes legal certainty.

C Licensing Regime

The third policy of licensing restricts the scope of copyright to AI-works where the AI maintains a legal data set. The policy would assume an undefeatable link between the AI input and output due to the AI processing mechanism.⁶¹ It stems from the concept of transparency and s 14(2)(b) of the Act,⁶² which states a work is not original if “it infringes the copyright in, or to the extent that it infringes the copyright in, another work.”

The licensing regime only protects works where the open-source AI system has confined itself to ‘lawfully sourced content’.⁶³ Lawfully sourced content distinguishes copyright-protected input without licensing restrictions from inputs with licensing restrictions. The AI data set would become lawfully sourced once it adheres to all copyright restrictions before using the copyrighted works as inputs. Lawfully sourced content includes licensed copyrighted works,⁶⁴ non-copyrighted works,⁶⁵ or engaging in fair dealing.⁶⁶

⁵⁸ Compendium of U.S. Copyright Office Practices § 313.2 in Hristov, above n 8, at 434.

⁵⁹ Gervais “Chapter 2: The human cause”, above n 4, at 35.

⁶⁰ Abbott and Rothman “Disrupting Creativity”, above n 3, at 31.

⁶¹ Deloitte, above no 35, at ix.

⁶² Taiwhenua, National Cyber Security Centre, Stats New Zealand, above n 19, at 3.

⁶³ Gil Appel, Juliana Neelbauer, and David A. Schweidel, “Generative AI Has an Intellectual Property Problem” (April 07, 2023) Harvard Business Review <https://hbr.org/2023/04/generative-ai-has-an-intellectual-property-problem>.

⁶⁴ Copyright Act 1994, s 12(5A)(a).

⁶⁵ Section 12(5A)(b).

⁶⁶ Section 42.

The regime may simplify the Court process by limiting the analysis to databases and reducing the subjective discretion of the judge. It would also maintain the status quo.⁶⁷ However, practical administrative difficulties may arise due to the need to audit AI datasets to ensure compliance and the complexity and size of the data sets.⁶⁸

D Significant Originality Regime

The fourth policy of significant originality restricts the scope of copyright to AI-works that pass an originality threshold that is much higher than that for human works. The policy reflects the relationship between the nature of the work, the duration of protection and the originality standard.⁶⁹ New Zealand currently has a universal originality standard for all categories of original works.⁷⁰ However, depending on the work type, they are granted different duration of copyright.⁷¹ Such a relationship may be due to the purpose of copyright to protect the hard work of an individual.⁷²

The policy would distinguish AI-assisted and AI-generated works due to the different extent of human effort involved. AI-assisted works would be analogous to current LDMA works. However, the policy would impose a higher originality threshold on AI-generated works to compensate for the lack of effort involved in the creation of the work.⁷³ Furthermore, a recent study found AI creativity to score the top 1% of all human responses.⁷⁴ The likelihood of AI

⁶⁷ Part 8; and Woods "Creative Commons", above no 5, at 44.

⁶⁸ Soiffer and Jain, above no 7.

⁶⁹ New Zealand Intellectual Property Office "Duration of Copyright" <www.iponz.govt.nz/about-ip/copyright/duration/>.

⁷⁰ Copyright Act 1994, s 14.

⁷¹ Sections 22-27.

⁷² Andreas Rahmatian "The attribution and allocation of copyright-property: authorship, creativity and ownership" in *Copyright and Creativity: The Making of Property Rights in Creative Works* (Edward Elgar, Cheltenham, 2011) 149 at 170-174.

⁷³ Patrick Goold "The curious case of computer-generated works under the Copyright, Designs and Patents Act 1988" (2021) 2 IPQ 120 at 127.

⁷⁴ University of Montana "Researchers Announce OpenAI's GPT-4 Matches or Outperforms Humans in Creative Thinking Tests" (7 June 2023) University of Montana Western (News and Events)

creativity exceeding the average human creativity, a higher threshold would even be the field for human creators.

With an increasing number of artists beginning to incorporate AI into their works, there are concerns about whether to maintain the status quo for originality tests or to alter it for generative-AI. Stating all generative-AI works are not original may disincentivise AI innovation or close the ‘door’ to AI-generated works which may work to the detriment of the creative industry.⁷⁵ However, allowing all AI-generated works may also result in disincentivising human creativity and risk exploitation of copyright.

VI Authorship and AI

The UK Copyright, Designs and Patents Act 1988 (“CDPA”) provides insight into the scope of AI work authorship under the New Zealand Act. Unlike other jurisdictions, s 9 of CDPA (‘Authorship of Work’) reflects the parliamentary intention to protect AI-works. Section 9(3) explicitly provides copyright protection to “literary, dramatic, musical or artistic” (“LDMA”) work which is “computer-generated”. A copyright is given to a “person by whom the arrangements necessary for the creation of the work are undertaken”.⁷⁶ The creator is therefore treated as the work’s legal author, regardless of whether they are the factual or conceptual author.

UKIPO has confirmed the present role of AI systems as assisting in the execution stage of creation. The current AI systems cannot generate work without human instructions or “arrangements necessary”. According to UKIPO, s 9(3) scope protects AI-works at the current AI stage as they remain the primary authors at the conception and redaction phases of creation.⁷⁷

www.umwestern.edu/article/researchers-announce-openais-gpt-4-matches-or-outperforms-humans-in-creative-thinking-tests/.

⁷⁵ Alexandre Pereira "A Copyright ‘Human-Centred Approach’ to AI?" (2021) 70(4) GRUR International 323 at 323.

⁷⁶ Copyright Act, s 9(3).

⁷⁷ P Bernt Hugenholtz and João Pedro Quintais, ‘Copyright and Artificial Creation: Does EU Copyright Law Protect AI-Assisted Output?’ (2021) 52 IIC 1190 at 1201.

The substance of CDPA was largely replicated when developing the New Zealand Act.⁷⁸ The Act, therefore, largely has the same effect regarding the copyright of AI-works. Section 5 ('Meaning of Author') in the Act is the general counterpart to s 9 of CDPA. Section 5(1) is identical to s 9(1). Section 5(2)(a) of the Act replicates s 9(3)— it offers copyright protection to “computer-generated” LDMA works and provides ownership to individuals who instructed the AI algorithm. Section 2 of the Act further interprets “computer-generated” works as works “generated by computer in circumstances such that there is no human author of the work”. Therefore, the Act equally captures the works of current AI systems.

However, contrary to the CDPA, the Act is unable to protect all AI-generated works. Under the CDPA, AI can be an ‘author.’⁷⁹ Section 5(3) of the Act obstructs authorship; it limits a “person,” consequently an “author,” to a “human or body corporate.” Section 5(3), therefore, significantly limits the use of AI and conflicts with s 5(2)(a) which protects “computer-generated works”.

A AI Authorship

Section 5 needs to be altered for authorship to accommodate AI under the ‘full-protection’, ‘licencing’ and ‘significant originality’ regimes. Each of the policy’s premise is to protect AI-generated works with minimal to no human intervention. Therefore, premise of the three regimes is inconsistent with s 5 due to the s 5(3) limitation.

For AI authorship, the Act will need to be amended for two reasons. First, the paper assumes “computer” is distinguishable from “AI systems” which means “computer-generated” no longer applies to AI-generated works. Second, an AI or a human behind an AI-generated work cannot be an author.⁸⁰ AI is programmable to mimic human creativity and can generate works often indistinguishable from human creations.⁸¹ This means an otherwise protectable work under these policies would be excluded from copyright due to s 5(3). An AI would not be legally

Commented [JK6]: Reference

⁷⁸ Susy Frankel “A brief perspective: the history of copyright in New Zealand” in Fitzgerald, Brian, and Benedict Atkinson (eds) *Copyright Future Copyright Freedom: Marking the 40th Anniversary of the Commencement of Australia's Copyright Act 1968* (Sydney University Press, Sydney, 2011) 72 at 73.

⁷⁹ The Copyright Design and Patent Act (CDPA) 1988 (UK), s 9(1).

⁸⁰ Copyright Act 1994, s 5(3).

⁸¹ Gervais “Chapter 2: The Human Cause”, above n 4, at 24.

classified as the “author” of the work. The AI-generated work will rather have an “unknown author” as there will not reasonably be a “person” behind the creation of the work following the Act’s definition.⁸² This means only AI-assisted works will incur copyright, and the human behind the AI-generated works may not be able to obtain copyright.

Prohibiting an AI from being an “author” may deter innovation and activities in the market.⁸³ AI authorship may stimulate the use of AI which would not only develop the AI industry and creative industry but also incentivise people to be more innovative.⁸⁴ Consequently, for the policies to remain functional, s 5 must be amended to explicitly allow for AI to be the primary creator of output. The following suggestions for amendment are concomitant.

AI can be given a legal personality. There are three options. First, s 5(3) may be amended to explicitly enable AI authorship: “The author of a work of any of the descriptions referred to in subsection (2) may be a natural person, a body corporate [or an artificial intelligence and alike].” Second, s 5(3) could be repealed to remove any limitations on the “person,” and therefore, “author.” Third, AI and users can be given an employment or commission relationship under s 21.⁸⁵ For example, s 21(6) may be inserted:

For the purposes of AI-generated works—

- (a) where the user provides a prompt, the AI is the employee, and the user is the employer; or
- (b) where the user pays for the AI, the user is the person who commissions the work.

Second, a new subsection may be included: “(4) For the purposes of subsection (2), a work may be AI-generated.”

Third, “author of a work”⁸⁶ may be redefined as “a person who — (a) creates it; [or (b) supervises or contributes to the AI-generated work.]”⁸⁷ This amendment would protect all works, beyond LDMA and clarify the scope of categories protected by the Act in AI-context.

⁸² CPDA, s 7.

⁸³ Hristov, above n 8, at 439.

⁸⁴ At 438.

⁸⁵ Copyright Act 1994, ss 21(2) and 21(3)(a).

⁸⁶ Section 5(2).

⁸⁷ Section 5(1).

Commented [JK7]: Reference

Commented [GA8]: Why is “second” being repeated here?

Fourth, the addition of s 5(2)(f) would expressly extend copyright to a new AI-generated works category distinct from human-generated work categories. Section 5(2)(f) may be drafted as: “in the case of artificial intelligence generated work, the user of the artificial intelligence algorithm and/or the developer of the artificial intelligence algorithm.”

Commented [GA9]: This is an example of where an article “the” is missing.

B Purely Human Authorship

Human authorship does not immediately disqualify works that use technological tools as part of their creative process. The core of human authorship is whether the person had sufficient creative control over the work to constitute the traditional elements of authorship.⁸⁸

The current Act is incompatible with the human authorship requirement by allowing “computer-generated” original works to be protected. Furthermore, although s 5(3) limits the protection of “computer-generated” output to where a “natural person or body corporate” has made the necessary arrangements, the term “body corporate” remains uncertain. Sections 2, 28, 133 and 201 imply a “body corporate” as a contractual entity. This suggests an AI could be classified as an “employee” under s 21, and therefore, contradict the human expression regime. Therefore, the Act needs to be amended to ensure only AI-assisted works are protected. The US jurisdiction provides insight into how s 5 can be amended to exclude non-human authorship.

The US copyright law requires protected works to be “the fruits of intellectual [...] founded in the creative powers of the mind”.⁸⁹ The US Copyright law reflects this policy under ss 101 and 304. The reference to the author’s “widow or widower, children, and grandchildren” implies that the “author” is a natural person, or by extension a legal person.⁹⁰

A ‘work’ is one of human authorship where the “traditional elements of authorship”⁹¹ were “conceived and executed not by a man but by a machine”.⁹² The USCO only registers copyright for works where the AI contributions are created by “[the author’s] original mental conception,

⁸⁸ *Burrow-Giles Lithographic Co. v. Sarony* 111 U.S. 53 at 61.

⁸⁹ *Trade-Mark Cases*, 100 US 82, 94 (1879) in Compendium (third) § 306.

⁹⁰ Copyright Act 1976, ss 101 and 304.

⁹¹ *U.S. Copyright Office, Compendium of U.S. Copyright Office Practices* (1st ed. 1973) § 2.8.3(I)(a)(1)(b).

⁹² Compendium (third edition) § 313.2.

to which [the author] gave visible form.”⁹³ How the AI tool operates and is applied are relevant considerations.⁹⁴

For example, if the only human contribution is providing a prompt to a generative-AI, the work will not have a human author.⁹⁵ The current AI technology does not allow a person to control the extent to which the AI interprets and implements prompts in the process of determining the creative elements of the work.⁹⁶ However, copyright acknowledges human authorship if a person complies with AI-generated works so that “the resulting work as a whole constitutes an original work of authorship”;⁹⁷ or if a person sufficiently modifies AI-generated work where modifications to the work “which, as a whole, represent an original work of authorship”.⁹⁸

In light of the US Act and USCO reasoning, s 5(3) fits the human authorship policy. An AI undertaking “arrangements necessary for the creation of the work”⁹⁹ would trigger s 5(3). Section 5(3) will restrict works where there is insufficient human originality to reasonably identify a “natural person or body corporate” behind the work.¹⁰⁰

However, the Act needs amending to resolve the conflict between ss 5(3) and 5(2)(a). First, “computer-generated”¹⁰¹ will need to be distinguished from “AI-generated” to ensure the Act only protects AI-works where a person established the “traditional elements of authorship”, namely originality. Sections 2 and 5(3) currently limit the scope of authorship to supportive technology, which enables s 5(1)(a) to protect LDMA that isn’t handcrafted. The distinction emphasises the minimal human effort requirement rather than the device used in its creation.¹⁰²

⁹³ Sarony, above no 90, at 60.

⁹⁴ US Copyright Office “Copyright Registration Guidance: Works Containing Material Generated by Artificial Intelligence” (2023) 88 FR 16190 at 16192.

⁹⁵ At 16192.

⁹⁶ At 16192.

⁹⁷ 17 USC 101 (“definition of compilation”)

⁹⁸ *Compendium (Third)* § 507.1; 17 USC 101 (“derivative work”)

⁹⁹ Copyright Act 1994, s 5(2)(a).

¹⁰⁰ Copyright Act 1994, s 7(2).

¹⁰¹ Section 2.

¹⁰² Letter from Shira Perlmutter (United States Copyright Review Board) to Ryan Abbot regarding Second Request for Reconsideration for Refusal to Register A Recent Entrance to Paradise (14 February 2022) at 5.

Additional safeguards can be placed by explicitly excluding “artificial intelligence” from the scope of “computer-generated” —

computer-generated, in relation to a work, means that the work is generated by a computer in circumstances such that there is no human author of the work, [with exception to the use of artificial intelligence].

The amendments would enable the application of the human-expression regime while restricting the application of the full protection, licensing and significant originality regimes.

Second, “unknown authorship”¹⁰³ can be amended to clarify human authorship. For example, a new s 7(3) may state:

7(3) For the purposes of this Act, it shall not be possible for a person to ascertain the identity of the author where

- (a) AI contributions are not the result of a person’s original mental conception, to which the person gave visible form; and
- (b) the traditional elements of authorship are not conceived or executed by a person upon reasonable inquiry.

Third, s 5(3) can be amended to further restrict the authorship of AI-works by including a new paragraph:

- (3) The author of a work of any of the descriptions referred to in subsection (2)—
 - (a) may be a natural person or a body corporate for AI-assisted or non-AI works;
 - (b) may not be an AI for AI-works.

Human authorship would prevent an AI from gaining copyright ownership or for an entity to gain copyright ownership through an AI. It aligns with the human expression approach.

VII Five Policies and Copyright Amendments

A Full Protection

Following the reasoning of UKIPO, the New Zealand Act enables the protection of AI-generated works as AI stands now. However, AI is also near the point where AI can “create”, rather than merely generate, and works independently with machine learning algorithms and

¹⁰³ Copyright Act 1994, s 7

datasets.¹⁰⁴ The human would not make the “necessary arrangements”.¹⁰⁵ Furthermore, the New Zealand Act fails to define the scope of an AI dataset under s 14 which may hinder the application of the full protection regime.

CPDA imposes the same requirements for LDMA as the Act, but not for other works. There is no originality requirement for sound recording, film, typographical arrangements, and communication under s 9.¹⁰⁶ As of 2022, the Court of Appeal in *Nova Productions Ltd v Mazooma Games Ltd* [2007] was the only case which considered s 9(3).¹⁰⁷ Even then, the focus was on “authorship” rather than originality. The only relevant part is that Jacob LJ seemingly interpreted “arrangements necessary”¹⁰⁸ as analogous to the originality standard which was “skill or labour of an artistic kind”^{109, 110}

Furthermore, while the CDPA guides due to its similarity to the Act and its liberal framework towards AI, it must be followed with caution for two reasons. First, UKIPO’s reasoning is purely based on the current state of the AI. They agreed things may change as AI develops.¹¹¹ Second, even if the CDPA allows copyright protection of AI-generated work, it may not achieve the sufficient clarification that is desirable when amending legislation. The CDPA framework may encompass AI with its current language; it is not dedicated to incorporating AI-generated work. Furthermore, the fair use maximalism principle can be subsequently applied to support the uncertainties CDPA presents when amending the NZ Act regarding copyright infringement. The fair use maximalism applies fair use doctrine on all AI-generated output as each output only minimally relies on any specific input content. AI learning is akin to drawing inspiration from previous works. Because AI copyright attaches to expression rather than the underlying ideas,

¹⁰⁴ Daniel J Gervais “AI Derivatives: The Application to the Derivative Work Right to Literary and Artistic Productions of AI Machines 52 STLR 1111 at 1112.

¹⁰⁵ CDPA, s 1(1)(a).

¹⁰⁶ Eugene Lim “Reconstituted expression, edited works and originality in copyright law” (2023) 45(2) European Intellectual Property Review 72 at 72.

¹⁰⁷ At 72.

¹⁰⁸ CDPA s 1(1)(a).

¹⁰⁹ *Nova Productions Ltd v Mazooma Games Ltd & Ors* [2006] EWHC 24 (Ch) at [106].

¹¹⁰ Goold “The Curious Case”, above n 73, at 125.

¹¹¹ Intellectual Property Office “Artificial Intelligence and Intellectual Property”, above n 6, at [29].

AI generating is sufficiently transformative.¹¹² Therefore, AI-generated works do not infringe on another's work.

To endorse the full protection policy, s 14 of the Act must clarify the originality element can be established by an AI even if the work is not "so mechanical or routine as to require no creativity whatsoever."¹¹³ While originality cannot be omitted as it is "the very premise of copyright law,"¹¹⁴ s 14 can be altered to incorporate a new originality standard for AI-works. The following examples are options that may be taken.

First, the legislature may alter s 14 to clarify that entities other than a natural person can be creative. The amendment would reconcile copyright originality with the non-human choices behind AI-generated works. For example, s 14(3) may be added to define the scope of originality: "The generator of originality is not limited to a natural person and can include artificial intelligence or the like."

Second, the legislature may implement an originality standard for AI-generated works that is distinguishable from the originality standard under s 14A. For example, s 14A may define AI copyright as:

14A Copyright in AI-Generated Works

- (1) Copyright is a property right that exists, in accordance with this Act, in original works of the following descriptions:
 - (a) literary, dramatic, musical, or artistic works:
 - (b) sound recordings:
 - (c) films:
 - (d) communication works:
 - (e) typographical arrangements of published editions:
 - (f) adaptations.
- (2) A work is not original if it is, or to the extent that it is, a copy of another work.
- (3) For the purposes of paragraph (f), the adaptations generated by an AI may attract copyright where the user is the copyright owner of the original work.

¹¹² Soiffer and Jain, above n 7.

¹¹³ *Feist Publications, Inc. v. Rural Telephone Service Co., Inc.*, 499 U.S. 340 (1991) at 363.

¹¹⁴ At 348.

(4) For the purposes of subsection (2), the combination of input of the AI dataset does not affect whether the relevant work is a copy of another work.

Section 14(2)(b) has purposefully been omitted from s 14A due to the nature of the policy and AI. A generative AI generally uses machine learning and analyses datasets often including copyrighted works without licenses.¹¹⁵ This means, AI by nature, infringes copyright. Therefore, s 14(2)(b) could result in AI-generated works being at risk of being constantly sued by all copyright holders of the AI inputs. This would contradict the nature of the full protection policy. Therefore, s 14(2)(b) omission eliminates the administrative difficulty of always raising the defence against copyright infringement and is compliant with the policy.

Furthermore, ss 14(1)(f) and 14(4) have been added to address the full scope of AI works. AI works, by nature, can be an adaptation or transformative work. However, the current New Zealand copyright law only allows the original owner to create adaptations of LDMA.¹¹⁶ Where the original owner and user are deemed separate from the AI, the current law may prohibit copyright protection of the derivative work created by the AI. Therefore, ss 14(1)(f) and (4) enable copyright protection of derivative works generated by AI while maintaining New Zealand's stance on adaptations.¹¹⁷

B Human-Expression

Human expression is deeply rooted in the originality requirement of copyright.¹¹⁸ Therefore, the core of this policy is originality. The Court of Appeal in *University of Waikato v Benchmarking Services Ltd* held the key consideration for originality is “whether sufficient time, skill, labour, or judgment has been expended in producing the work”.¹¹⁹ The threshold for the test is not high.¹²⁰ Because there have never been entities that have imitated the human mind,

¹¹⁵ Lim, above no 108, at 3. See Roberto Iriondo “Machine Learning (ML) vs. Artificial Intelligence (AI) – Crucial Differences” (Oct. 15, 2018) Towards AI <<https://medium.com/datadriveninvestor/differences-between-ai-and-machine-learning-and-why-it-matters-1255b182fc6>>.

¹¹⁶ Copyright Act 1994, s 94.

¹¹⁷ Copyright Licensing New Zealand “Is your work derivative or transformative?”, above n 28.

¹¹⁸ Pereira “A copyright ‘human-centred approach’ to AI?”, above n 75, at 323.

¹¹⁹ *University of Waikato v Benchmarking Services Ltd* [2004] NZCA 90 at [27].

¹²⁰ At [27].

there are uncertainties about whether “time, skill, labour, or judgment” can solely be exercised by humans. As mentioned under Part VI.B, because the Act protects “computer-generated” works and body corporate ownership of copyright, the Act is overall incompatible with the human expression regime.

The US Copyright Office (USPO)¹²¹ and the European Parliament (EP) guide as to the amendments to support human originality.¹²² The multiple parties, human and machine, involved in AI-works require a “proximate”¹²³ causation test or a “nexus between the human mind and creative expression”.¹²⁴ EP balances the human approach that is ‘compliant with ethical principles and human rights’ with AI innovation by leaving room for “copyright ex machina and techno-digital property”.¹²⁵

Currently, the US copyright regime is the closest to the human-expression policy. The recent secondary examination of “Zarya of the Dawn” illustrates how the policy can be legally applied. “Zarya of the Dawn” involved a human-authored text, a human-made arrangement, and AI-generated illustrations. The USCO held that the use of the AI service, MidJourney, created excess distance between the author’s input and output to generate copyright for her graphic novel. The new position of the USCO diverges from the previous view that generative-AI mirrors other technological tools on which their outputs incur copyright. For example, courts held photographs are “representatives of original intellectual concepts of the author.”¹²⁶ Therefore, the photographer would be the “author” of the photograph despite the camera being the ultimate generator of the “exact features of some natural object or some person.”¹²⁷

¹²¹ The USCO published a policy notice in March 2023, stating that AI-generated material may be eligible for copyright if a human author has contributed a significant amount of original expression.

¹²² Pereira "A copyright 'human-centred approach' to AI?", above n 75, at 323

¹²³ Gervais “Chapter 2: The human cause”, above no 4, at 36.

¹²⁴ Perlmutter, above n 102, at 4.

¹²⁵ Pereira "A copyright 'human-centred approach' to AI?", above n 75, at 324.

¹²⁶ *Sarony*, above no 90, at 57-59.

¹²⁷ At 57-59.

EP Resolution defines the human regime as complying with the originality principle and intellectual creation linked to “a natural person” and “the author’s personality,” respectively.¹²⁸ EP’s “horizontal, evidence-based and technologically neutral approach”¹²⁹ does not immediately exclude autonomously produced AI-works under ‘common, uniform copyright provisions’.¹³⁰ Directive 2019/790 further converts copyright into an ‘opt-out regime’ by allowing free use of copyrighted works for text and data mining unless right-holders expressly reserve uses rather than requiring their authorisation.¹³¹

Primarily, s 14 can be amended to clarify the importance of substantial human originality in the copyrighting of a work. Primarily, the legislature could add s 14(3) to enforce the need for human creativity: “A work is original if it is possible for a person who wishes to ascertain the author’s personality in the work to do so by reasonable inquiry.”¹³² As a continuation of Part VI(B), this wording would reflect the Supreme Court’s definition of originality as a work independently created by its author which embodies expression that is at least minimally creative.¹³³ The test which requires creative choices made by an author implies human creative choices.¹³⁴

Subsequently, the analysis of *Zarya* and EP Resolution raises the importance of transparency of the components of the work as to how involved were the human and the AI in the work. For example, a new section 15A may require the process of the creation of AI-works to be recorded:

15A Recording necessary for AI-works

(1) Copyright does not exist in an AI-generated or AI-assisted work unless and until the relevant work process and involved parties are recorded, in writing or otherwise.

¹²⁸ Resolution “Intellectual property rights for the development of artificial intelligence technologies” [2021] OJ C404/129 at [15].

¹²⁹ At [15].

¹³⁰ At [15].

¹³¹ Directive “Copyright and Related Rights in the Digital Single Market and Amending Directives” [2019] OJ L130/92, art 4; and Pereira “A copyright ‘human-centred approach’ to AI?”, above no 75, at 324.

¹³² Resolution OJ C404/129, above n 128, at [15].

¹³³ Feist, above n 112, at 345.

¹³⁴ Gervais “AI Derivatives”, above n 104, at 1113.

(2) It is immaterial for the purposes of subsection (1) whether the work is recorded by or with the consent of the author.

(3) The record or evidence shall not be used in contexts outside of providing proof of human originality.

(4) Where a work process is not recorded by the author, the work will not be eligible for copyright unless the author can prove, by other means, the originality of the work.

Subsection (1) ensures AI users comply with the transparency principle and reduce administrative difficulties arising when distinguishing human elements from the AI elements of the work. Subsection (2) allows for non-user parties to provide evidence on the extent of human involvement in the work for two reasons. First, it holds the user accountable for the validity of the record of their process. Second, it allows the user to rely on a third party's record. Subsection (3) prevents the misuse of the record. Subsection (4) ensures no injustice is created from this administrative requirement by allowing the user to prove, through other means, that they were the primary creator of the work.

Furthermore, the human regime assumes the AI dataset is subject to fair use as the focus is on human creativity rather than the nature of the AI.

C Licensing and Fair Dealing

The prominence of “web crawlers”¹³⁵ and blind data use in AI machine learning has caused concerns as to the originality of the works. Depending on how machine learning is viewed, AI use can become a blatant infringement of pre-existing copyrighted works.¹³⁶ Therefore, the core of the licensing approach is to protect other copyrights through the originality element. Part 3 of the New Zealand Act does not include the AI database as an exception to copyright infringement. While s 12 prohibits infringement of copyright, machine learning and AI databases remain ambiguous as to whether they constitute infringement. The ambiguity arises from the absence of a legal status of AI databases. If the inputs were considered as ideas rather

¹³⁵ Ariel Bogle “New York Times, CNN and Australia’s ABC block OpenAI’s GPTBot Web crawler from accessing content” (25 Aug 2023) The Guardian <www.theguardian.com/technology/2023/aug/25/new-york-times-cnn-and-abc-block-openais-gptbot-web-crawler-from-scraping-content>.

¹³⁶ Copyright Act 1994, s 14(2)(b).

than expressions, AI use of the database would be analogous to obtaining inspiration and would not constitute infringement.

Furthermore, the machine learning process and relevant use of data are AI specific: it does not fall under any of the existing categories of the Act. The policy's focus on the input rather than the output requires the law to approach AI-work originality differently from other work categories. Therefore, the legislature may separate AI-generated works into a separate category, such as "communication works." The Act can be amended in three steps.

First, s 12 which defines "infringing copy" is the core aspect of the regime. All the subsections apply to AI-generated work. Section 12 can be further clarified by s 12(5)(c): "s 93A (which relates to incidental use of works for the purposes of developing an artificial intelligence".¹³⁷

Second, the legislature may incorporate s 93A, analogous to s 85 ("Incidental recording for purposes of communication"), for AI input.

93A Incidental use of works for the purposes of developing an artificial intelligence

- (1) This section applies where, under an assignment or licence, a person is authorised to incorporate the following works into the AI data system:
 - (a) a literary, dramatic, musical work, artistic work or an adaptation of that work; or
 - (b) a sound recording or film; or
 - (c) any other categories the Court sees fit.
- (2) Where this section applies, the person so authorised may, without the consent of the copyright owner, but only if the conditions contained in subsection (3) are complied with, do or authorise the doing of any of the following acts for the purposes of AI algorithm:
 - (a) in the case of subsection (1), copy the work or adaptation into the AI training system;
 - (b) in the case of data analysis of work of any description, copy the work by translating it into data form or instructions.
- (3) The conditions referred to in subsection (2) are –
 - (a) that the work or an adaptation of that work is not used for any other purposes; and
 - (b) that the work is lawfully sourced content which may be—
 - (i) copyrighted that has been given license for use;
 - (ii) not protected under copyright;

¹³⁷ Section 12(5)(a).

- (iii) used as input for a purpose defined as fair dealing or exception under the Act.
- (4) Any generated output or input made in accordance with this section shall be treated as an infringing copy—
- (a) for the purposes of any use in breach of the condition contained in subsection (3)(a); and
 - (b) for the purposes after either of the conditions contained in subsection (3) is broken.

Third, the definition of artificial intelligence can be incorporated into the definition section to clarify the difference between the input elements and output elements of the algorithm.

Additionally, ‘fair dealing’ is central to this regime due to the heavy focus on AI datasets and inputs. Therefore, legislative guidance is necessary to delineate the scope of fair dealing. For example, only the GAI used to generate commercial outputs may be required to have licensed input while non-commercial AI can use the defence of fair dealing. Subsequently, a new section can be further added under the heading “Acts permitted in relation to copyright works”¹³⁸ to clarify the extent of fair dealing applicable in New Zealand.

For example, s 41A (“Work generated by Artificial Intelligence”) can be inserted after s 41 (“Incidental copying of copyright work”)—

- (1) A work generated by an artificial intelligence does not infringe copyright in the work if the —
 - (a) Work is a reproduction of another work under s 43A; or
 - (b) Work falls under the fair dealing regime under Part 3 of this Act; or
 - (c) Copyrighted works are used for the purpose of data analysis;¹³⁹ or
 - (d) The data set of the open-source AI is confined to legally sourced content.
- (2) For the purposes of the Act, “legally sourced content” refers to works not protected under Copyright or works for which the AI developer purchased a copyright licence.
- (3) For purposes of data analysis, copyrighted work may not be exploited “if it would unreasonably prejudice the interests of the copyright owner in light of the nature or the purpose of the work or the circumstances of its exploitation”.¹⁴⁰

¹³⁸ Part 3.

¹³⁹ Japanese Law Translation “Copyright Act 1970” (19 January 2023) <www.japaneselawtranslation.go.jp/en/laws/view/4207> at art 30-4.

¹⁴⁰ Japan’s Copyright Act 1970, art 30-4 (provisio) in Storia Law “Automatic Content Generation AI and Copyright” <<https://storialaw.jp/en/service/bigdata/ai-14/14-2>> at 2.

- (4) For the purpose of the Act, subsection (1) does not imperatively result in infringed copyright where the AI uses copyrighted work in the development phase if it is “fair”.

D Significant Originality

So far, none of the commonwealth jurisdictions have applied a higher originality threshold for AI-works on the basis that AI can produce the same labour and creativity as humans. As seen under the human expression policy, most jurisdictions tend to differentiate the nature of labour and creativity, rather than distinguishing the nature of the work itself. However, as mentioned under VI.D., this policy only applies to AI-generated works where the primary creator is the AI. Not only is the current law sufficient to protect AI-assisted works, but increasing the threshold for AI-assisted works will disincentivise users from using AI as tools. If the input of users does not make a difference to the originality, users will more likely rely more heavily on AI; this is counterproductive for creativity. Therefore, the analysis attempts to establish a higher originality threshold for AI-generated works.

The closest example in the present jurisdictions is the EU. EU copyright subsists in works generated by “author’s own intellectual creation.”¹⁴¹ While various jurisdictions within the EU apply the intellectual creation test differently, some jurisdictions suggest the intellectual creation test imposes a higher level of creation. For example, the Court of Czech Republic in *Bezpečnostní softwarová asociace* held “intellectual creation” to impose a creativity requirement.¹⁴²

Although the 1985 decision of the German Supreme Court in the *Inkasso* was overruled by the 1991 Directive, it may provide a valuable understanding of the significant originality regime. The Court supposed an originality standard and creativity for computer programs surpassing the average professional ability. The decision implemented objective criteria for originality

¹⁴¹ Case C-5/08 *Infopaq International v. Danske Dagblades Forening* ECLI:EU:C:2009:465 at [45].

¹⁴² Case C-393/09 *Bezpečnostní softwarová asociace — Svaz softwarové ochrany v Ministerstvo kultury* ECLI:EU:C:2010:816 at [50].

about the author and the creative process. The nature of the author would be a relevant consideration.¹⁴³

Two amendments may be made to the Act in light of the “author’s own intellectual creation” test and the overruled judgment.

First, because the originality standard for AI-generated works will be different to the standard for non-AI-generated works, a new section may be inserted into the Act after s 14. Placing it after s 14 will match the organisation of the Act. For example, s 14A (“Copyright in original AI-generated works”) may be added:

14A Copyright in original AI-generated works

- (1) Copyright is a property right that exists, in accordance with this Act, in original works.
- (2) A work is not original if—
 - (a) it is, or to the extent that it is, a copy of another work; or
 - (b) it infringes the copyright in, or to the extent that it infringes the copyright in, another work; and
- (3) A work is original where it is the author’s own intellectual creation.
- (4) For the purposes of the Act, a work is an author’s own intellectual creation where—
 - (a) there is a significant amount of creativity that surpasses that of an average professional; and
 - (b) the elements of creativity determined by the Courts are satisfied.
- (5) An example of an original work complying with subsection (3) is a new style of artistic style or new concept in filmmaking.
- (6) This section does not apply to AI-assisted works.

The key element of s 14A is subss (3) and (4) which sets out the high threshold test for AI-generated works seen in the EU jurisdiction and German precedent. In particular, subs (4) defines the “author’s own intellectual creation” test. Paragraph (4)(a) distinguishes the “author’s own intellectual creation” test from the current “minimal time, skill and effort” test in New Zealand. It incorporates an additional creativity element to originality. Paragraph (4)(b) provides legal flexibility to prevent the subsection from disincentivising AI innovation and use

¹⁴³ Mina Jovanović "The originality requirement in EU and U.S., different approaches and implementation in practice" (July 3, 2020) ETCA <<https://ecta.org/ECTA/documents/MinaJovanovic3rdStudentAward202012149.pdf>> at 18.

or from becoming anachronistic. Subsection (6) emphasises the new originality standard only applies to AI-generated works.

Second, the regime may be bolstered or softened depending on the chosen authorship policy. If the legislature desires to implement a more stringent limitation on AI-generated works, the authorship can be purely restricted to natural persons or body corporations under Part VI-B of this paper. More conservative jurisdictions including the U.S., Spain and Germany provide copyright to works created by a human.¹⁴⁴ However, if the legislature desires to balance the more stringent originality requirement with a lower authorship requirement, the legislature may opt to include AI as an author under Part VI-A.

VIII Conclusion

AI works is a necessary addition to the Copyright Act 1994. The amendment will clarify New Zealand's stance on copyrighting AI works. It is critical for legal certainty. There are various policy positions New Zealand may take. First, the full protection regime protects all AI works where minimal originality requirement is satisfied. Second, the human expression regime only protects AI works where there is an expression of the human author's personality; it is likely only AI-assisted works will be protected. Third, the licensing regime only protects AI works of AI systems which do not contain copyright-infringing material as input. Fourth, the significant originality regime enforces a higher originality threshold for AI-generated works and will only protect works that have passed its threshold.

Policy stance is not restricted to any of these four regimes, nor are the regimes mutually exclusive. However, considering the technological developments, the government must decide as to what copyright protection AI works will have.

¹⁴⁴ Andres Guadamuz "Artificial intelligence and copyright" (October 2017) WIPO Magazine <www.wipo.int/wipo_magazine/en/2017/05/article_0003.html>.

BIBLIOGRAPHY

A Cases

1 New Zealand

Henkel KgaA v Holdfast New Zealand Ltd [2006] NZSC 102.

University of Waikato v Benchmarking Services Ltd [2004] NZCA 90.

2 European Union

Case C-393/09 *Bezpečnostní softwarová asociace—Svaz softwarové ochrany v Ministerstvo kultury* ECLI:EU:C:2010:816.

Case C-5/08 *Infopaq International v. Danske Dagblades Forening* ECLI:EU:C:2009:465.

3 United Kingdom

Nova Productions Ltd v Mazooma Games Ltd & Ors [2006] EWHC 24 (Ch) at [106].

4 United States

Burrow-Giles Lithographic Co. v. Sarony, 111 U.S. 53.

Feist Publications Inc. v Rural Telephone Service Co Inc. 499 US 340 (1991).

Trade-Mark Cases 100 U.S. 82 (1879).

B Legislation

1 New Zealand

Copyright Act 1994.

2 European Union

Directive “Copyright and Related Rights in the Digital Single Market and Amending Directives” [2019] OJ L130/92.

Resolution “Intellectual property rights for the development of artificial intelligence technologies” [2021] OJ C404/129.

3 Japan

Copyright Act 1970 (Japan).

4 Russia

National Strategy for the Development of Artificial Intelligence 2019 (Russia).

5 United Kingdom

Copyright Design and Patent Act 1988 (UK).

National Security and Investment Act 2021 (Notifiable Acquisition) (Specification of Qualifying Entities) Regulations 2021 (UK).

6 United States

National Artificial Intelligence Act 2020 15 USC.

17 USC.

18 USC.

US Copyright Office, *Compendium of US Copyright Office Practices* (1st ed. 1973).

US Copyright Office, *Compendium of US Copyright Office Practices* (3d ed. 2021).

C Books and Chapters in Books

Daniel Gervais “Chapter 2: The human cause” in Ryan Abbot (ed) *Research Handbook on Intellectual Property and Artificial Intelligence* (Edward Elgar Publishing, UK, 2022).

Susy Frankel “A brief perspective: the history of copyright in New Zealand” in Fitzgerald, Brian, and Benedict Atkinson (eds) *Copyright Future Copyright Freedom: Marking the 40th Anniversary of the Commencement of Australia's Copyright Act 1968* (Sydney University Press, Sydney, 2011).

Andreas Rahmatian “The attribution and allocation of copyright-property: authorship, creativity and ownership” in *Copyright and Creativity: The Making of Property Rights in Creative Works* (Edward Elgar, Cheltenham, 2011).

D Journal Articles

Ryan Abbott and Elizabeth Rothman “Disrupting Creativity: Copyright Law in the Age of Generative Artificial Intelligence” (2022) FLR, Forthcoming.

Stephen Breyer “The uneasy case for copyright: a study of copyright in books, photocopies, and computer programs” (1970) 84 HarvLRev 281.

Leah Chong and others "The Evolution and Impact of Human Confidence in Artificial Intelligence and in Themselves on AI-Assisted Decision-Making in Design Decision-making assistance" (2022) 145 ASME 031401.

Copyright Office “Copyright Registration Guidance: Works Containing Material Generated by Artificial Intelligence” (2023) 88 FR 16190.

Robert Denicola “Ex Machina: Copyright Protection for Computer-Generated Works” (2016) 69 RutgersLRev 251.

Daniel J. Gervais “AI Derivatives: The Application to the Derivative Work Right to Literary and Artistic Productions of AI Machines 52 STLR 1111.

Patrick Goold “The curious case of computer-generated works under the Copyright, Designs and Patents Act 1988” (2021) 2 IPQ 120.

J Matthew Helm and others “Machine Learning and Artificial Intelligence: Definitions, Applications, and Future Directions” (2020) 13 CurrRevMusculoskeletMed 69.

Kalin Hristov “Artificial Intelligence and the Copyright Dilemma” (2017) 57 IDEA 431

P Bernt Hugenholtz and João Pedro Quintais, ‘Copyright and Artificial Creation: Does EU Copyright Law Protect AI-Assisted Output?’ (2021) 52 IIC 1190.

Zachary Katz, 'Pitfalls of Open Licensing' (2005) 46 IDEA 391.

Eugene Lim “Reconstituted expression, edited works and originality in copyright law” (2023) 45(2) EIPR 72.

Alexandre Pereira "A copyright ‘human-centred approach’ to AI?" (2021) 70(4) GRUR International 323.

Sam Ricketson “People or Machines: The Berne Convention and the Changing Concept of Authorship” (1991–2) 16 ColumJL&Arts 1.

Martin Senffleben and Laurens Buijtelaar “Robot creativity: an incentive-based neighbouring rights approach” (2020) 42(12) EIPR 797 at 803.

Han Wan "Authorship of Artificial Intelligence-Generated Works and Possible System Improvement in China" (2023) 14 BLR 901.

Stephanie Woods "Creative Commons - A Useful Development in the New Zealand Copyright Sphere?" (2008) 14 CantaLR 31.

Takashi B. Yamamoto, “AI Created Works and Copyright” (2018) 48(1) Patents & Licencing 1.

F Reports

Intellectual Copyright Office “Artificial Intelligence and Intellectual Property: copyright and patents” (GOV.UK, Consultation outcome, 28 June 2022).

WIPO Secretariat *Wipo Conversation On Intellectual Property (IP) And Artificial Intelligence (AI)* (WIPO, WIPO/IP/AI/2/GE/20/1 Rev, May 2020).

G Internet Resources

Gil Appel, Juliana Neelbauer, and David A. Schweidel, “Generative AI Has an Intellectual Property Problem” (April 07, 2023) Harvard Business Review <https://hbr.org/2023/04/generative-ai-has-an-intellectual-property-problem>.

Ariel Bogle “New York Times, CNN and Australia’s ABC block OpenAI’s GPTBot web crawler from accessing content” (25 Aug 2023) The Guardian <www.theguardian.com/technology/2023/aug/25/new-york-times-cnn-and-abc-block-openais-gptbot-web-crawler-from-scraping-content>.

Blake Brittain "U.S. Copyright Office says some AI-assisted works may be copyrighted" (16 March 2023) Reuters <www.reuters.com/world/us/us-copyright-office-says-some-ai-assisted-works-may-be-copyrighted-2023-03-15/>.

Copyright Licensing New Zealand “Fair Dealing in New Zealand” (online ed, 2020) <www.copyright.co.nz/downloads/assets/5212/1/fact-sheet:-fair-dealing-in-new-zealand.pdf>.

Copyright Licensing New Zealand “Is your work derivative or transformative?” (26 June 2023) <www.copyright.co.nz/about/news-and-blog/is-your-work-derivative-or-transformative>.

Deloitte “Copyright in the Digital Age: An Economic Assessment of Fair Use in New Zealand” (March 2018) <<https://www2.deloitte.com/content/dam/Deloitte/nz/Documents/Economics/dae-nz-copyright-fair-use.pdf>>.

Andres Guadamuz "Artificial intelligence and copyright" (October 2017) WIPO Magazine <www.wipo.int/wipo_magazine/en/2017/05/article_0003.html>.

Intellectual Property Office "About us" GOV.UK <www.gov.uk/government/organisations/intellectual-property-office/about>.

Intellectual Property Office "Artificial Intelligence and Intellectual Property: copyright and patents: Government response to consultation” (28 June 2022) Gov.UK <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>.

Roberto Iriondo “Machine Learning (ML) vs. Artificial Intelligence (AI) – Crucial Differences” (Oct. 15, 2018) Towards AI <<https://medium.com/datadriveninvestor/differences-between-ai-and-machine-learning-and-why-it-matters-1255b182fc6>>.

Japanese Law Translation “Copyright Act 1970” (19 January 2023) <www.japaneselawtranslation.go.jp/en/laws/view/4207>.

Mina Jovanović "The originality requirement in EU and U.S., different approaches and implementation in practice" (July 3, 2020) ETCA <<https://ecta.org/ECTA/documents/MinaJovanovic3rdStudentAward202012149.pdf>>.

New Zealand Intellectual Property Office "Duration of Copyright" <www.iponz.govt.nz/about-ip/copyright/duration/>.

Ariel Soiffer and Aric Jain "Copyright Fair Use Regulatory Approaches in AI Content Generation" (August 8 2023) Tech Policy Press <<https://techpolicy.press/copyright-fair-use-regulatory-approaches-in-ai-content-generation/>>.

Storia Law "Automatic Content Generation AI and Copyright" <<https://storialaw.jp/en/service/bigdata/ai-14/14-2/>>.

SC Stuart "Can AI Direct Movies? This One Just Did" (3 September 2021) PCMag Australia <<https://au.pcmag.com/news/89283/can-ai-direct-movies-this-one-just-did>>.

Te Tari Taiwhenua, National Cyber Security Centre, Stats New Zealand "Initial advice on Generative Artificial Intelligence in the public service" (July 2023) digital.govt.nz <www.digital.govt.nz/assets/Standards-guidance/Technology-and-architecture/Generative-AI/Joint-System-Leads-tactical-guidance-on-public-service-use-of-GenAI-September-2023.pdf>.

University of Montana "Researchers Announce OpenAI's GPT-4 Matches or Outperforms Humans in Creative Thinking Tests" (June 07 2023). The University of Montana Western (News and Events) <www.umwestern.edu/article/researchers-announce-openais-gpt-4-matches-or-outperforms-humans-in-creative-thinking-tests/>.

Karen Workman "What's Fair Use, and does it apply in NZ?" (11 April 2022) Copyright Licensing New Zealand <<https://www.copyright.co.nz/about/news-and-blog/whats-fair-use-and-does-it-apply-in-nz/>>.

H Other

European Commission *Proposal for a Regulation of the European Parliament and of the Council Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act) And Amending Certain Union Legislative Acts* (European Commission, COM/2021/206 final, April 2021).

Letter from Shira Perlmutter (United States Copyright Review Board) to Ryan Abbot regarding Second Request for Reconsideration for Refusal to Register A Recent Entrance to Paradise (14 February 2022).

Seungwoo Son, “Definitions” (paper presented to the WIPO Conversation on Intellectual Property (IP) and Artificial Intelligence (AI) Second Session, Virtual, July 2020).