GENERATIVE ARTIFICIAL INTELLIGENCE MODELS AND COPYRIGHT INFRINGEMENT: DOCTRINAL CHALLENGES AND REGULATORY GAP-FILLING USING UNFAIR COMPETITION PRINCIPLES

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Generative artificial intelligence ('GenAI') models raise two key copyright infringement questions. The 'input' question asks whether the use of copyright content to train GenAI models constitutes infringement. The 'output' question focuses on content produced using GenAI and asks whether this infringes the human-authored works that it is based on. Drawing from United States case law, this article considers if Australian copyright law is equipped to address these questions. It identifies the doctrinal inflexibility and challenges at the input and output stages and highlights the importance of copyright's fundamental idea/expression dichotomy at each stage. We should be cautious about stretching our understanding of copyright's idea/ expression dichotomy to fit challenges raised by GenAI. Copyright law's fundamental principles will continue to apply to GenAI outputs, though support is needed from regulatory frameworks based on unfair competition law principles, which are able to target specific harms to creative labour and reputations.

I INTRODUCTION

The use and accessibility of artificial intelligence ('AI') technologies, developed from machine learning processes, have proliferated over social media networks and the internet. Generative artificial intelligence ('GenAI') models, which not only parse information but can produce content, have given rise to instances of potential copyright infringement in various media. Taking a visual arts example, Midjourney has been shown to immediately generate depictions of movie, videogame and cartoon characters in response to simple text prompts.[1] Of course, the similarities of these depictions to their source materials vary depending on the GenAI model, how

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1 Stuart A Thompson, 'We Asked AI to Create the Joker. It Generated a Copyrighted Image', *The New York Times* (online, 25 January 2024) <https://www.nytimes.com/interactive/2024/01/25/business/ai-image-generators-openai-microsoft-midjourney-copyright.html>.

it is used and the purpose of the tool implementing the model. The Studio Ghibli craze enabled by ChatGPT is another example.[2] Users could upload photo prompts to ChatGPT and have the tool generate images in the distinctive anime hand-drawn style of Studio Ghibli and its founder, Hayao Miyazaki.[3]

While GenAI's proliferation in society raises innumerable challenges for law, if we focus on the issue of GenAI and copyright infringement, the debate is often distilled to two main questions:

1. Is the use of copyright content to train GenAI an infringement of copyright? ('the input question'); and

2. Is the prompting of GenAI models to produce content that imitates and is a substitute for copyright works used to train such models an infringement of copyright? ('the output question')

Both input and output stages pose significant conceptual, doctrinal and practical challenges for copyright law. In terms of inputs, one may question whether the training of GenAI involves 'expressive use' of works, even if copied verbatim.[4] Outputs in response to prompting, on the other hand, bring to the fore the level of similarity in *expression* needed to constitute sufficient copying.[5] The questions and issues, as this article will show, are linked. At their core, these infringement questions test copyright's fundamental principle of protecting expression but not ideas ('idea/expression dichotomy') and the notion of original authorship. The idea/expression dichotomy is easy to state but difficult to apply, and is markedly so in the GenAI context. Effectively maintaining and upholding these principles is important and should be equally valued in the GenAI context.

This article draws out and analyses the arguments in notable disputes and decisions in the United States of America ('US') and considers if Australian copyright law is equipped to deal with the challenges of GenAI copyright infringement. An illustrative US case is the ongoing *The New York Times Co v Microsoft Corporation* ('*New York Times v Microsoft*') litigation,[6] which involved allegations that ChatGPT was trained using datasets containing New York Times ('NY Times') articles without authorisation, and that when prompted by users it would generate verbatim paragraphs of such articles. A palpable concern was that ChatGPT was diverting attention from, and negatively impacting, the market for human-authored NY Times articles. This will be compared against the use of books

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2   Sohani Goonetillake, 'Why the AI-Generated "Studio Ghibli" Trend Is so Controversial', *ABC News* (online, 3 April 2025) <https://www.abc.net.au/news/2025-04-03/the-controversial-chatgpt-studio-ghibli-trend-explained/105125570>.

3   It appears that OpenAI, the proprietor of ChatGPT, has since taken a more 'conservative approach' to images using artists' work in its model and has limited access to the tool: Lee Chong Ming, 'OpenAI Just Made It Harder to Turn Your Pics into Studio Ghibli-Style Images', *Business Insider* (online, 27 March 2025) <https://www.businessinsider.com/openai-chatgpt-studio-ghibli-style-images-generation-grok-claude-genai-2025-3>.

4   This is discussed in Part II(B).

5   This is discussed in Part II(C).

6   The New York Times Company, 'Complaint', Complaint in *The New York Times Co v Microsoft Corporation* (SD NY, No 1:23-CV-11195, 27 December 2023) ('*NYT v Microsoft* Complaint').

as training data in *Kadrey v Meta Platforms Inc* ('*Kadrey*'),[7] which involved less obvious outputs of recognisable content and was dismissed by a US district court. In addition to these examples involving literary works, disputes over the use of images and music, and the common arguments arising across different media, will be discussed.[8] In dissecting the core concerns and sticking points in these disputes, the article underscores the interests that creators and content owners are seeking to protect. Drawing out these concerns highlights how these interests are not suitably protected through a copyright property infringement framework.

This article prompts us to recalibrate the property lens through which we evaluate the use of copyright content in the GenAI context. The core argument is that certain harms claimed in disputes by copyright owners against proprietors of GenAI tools could be addressed through a regulatory framework that supplements existing actions of copyright infringement, as guided by principles of unfair competition. These harms include the replication of distinct artistic styles or recognisable characters built upon a body of work. This approach may lead to compensatory frameworks and other measures such as technical guardrails to prevent the appropriation of creative reputational value using GenAI tools. A targeted regulatory approach that addresses exploitation of content by GenAI companies would ensure that we do not undermine copyright's fundamental idea/expression dichotomy to tackle the challenges of GenAI.

II THE COPYRIGHT CONCERN: INPUTS, OUTPUTS OR BOTH?

The use of copyright content as 'inputs', that is the use of copyright content to train GenAI tools, currently entails verbatim wholesale reproductions of copyrighted works. Therefore, a question is whether such copies in the background, carrying out arguably technical or functional roles constitute 'expressive use' or if they are exempt under specific exceptions, such as fair use. When we examine 'outputs', that is the content generated by GenAI tools in response to a user's prompts, we again encounter potential infringement of the reproduction right.[9] However, any reproduction (if at all) would be in a non-identical form. This requires consideration of the relevant similarity test. The determination of liability in these instances hinges on the application of these tests on a case-by-case basis, as search results are variable depending on the prompts entered into the GenAI system. Therefore, it provides a more uncertain and variable ground for copyright liability. Inputs, on the other hand, are a more attractive basis for liability from the

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7   Order of Chhabria J in *Kadrey v Meta Platforms Inc* (ND Cal, No 23-CV-03417-VC, 20 November 2023) ('*Kadrey*').

8   See the discussion in Part III.

9   Another possible right is the right to communicate to the public, but this would also be subject to the similarity standards being satisfied. For discussion of liability for GenAI's *selection* of material that is communicated to the public, see Cheryl Foong, 'Artificial Intelligence and the Right to Communicate to the Public in Copyright: Lessons from the United States' (2022) 33 *Australian Intellectual Property Journal* 73 ('AI and Right to Communicate').

perspective of copyright owners, akin to controlling the source of a spring rather than its downstream, disparate flow.

The distinct challenges that inputs and outputs raise for copyright doctrine and policy are represented in Figure 1 below. It should be recognised that the broad categorisation of 'input' and 'output' steps is simplified and draws upon the various stages of the 'GenAI supply chain'.[10] Furthermore, different parties could be responsible for each stage.[11] The diagram also alludes to legal questions raised at each stage that will be expanded upon in the sections of this article that follow. Both 'input' and 'output' questions relate to copyright law's protection of expression, though in different ways. Another matter highlighted by this diagram is how outputs that are not objectively or substantially similar in a copyright sense may nevertheless be substitutes for human-authored content that has been used as inputs for machine learning.[12]
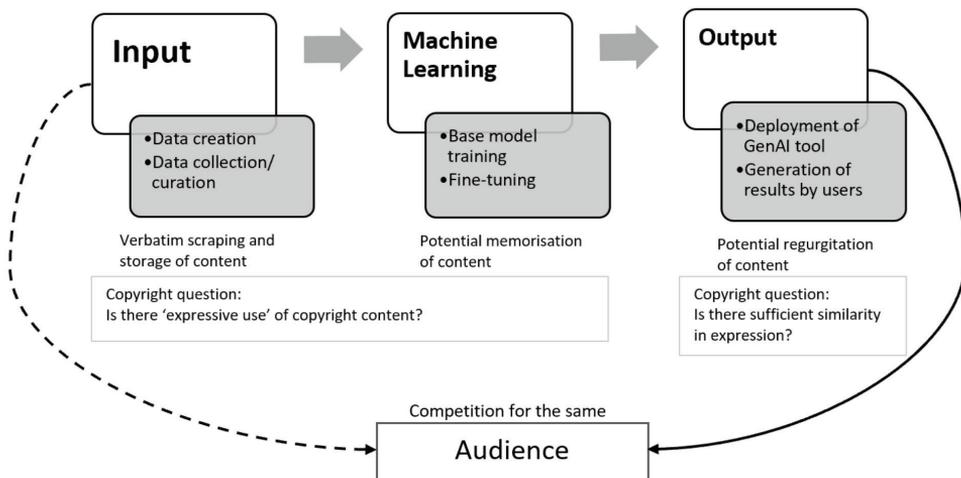

Figure 1: The input and output questions

It is important not to lose sight of the broader context: we are grappling with systems that evaluate, digest and generate content (content that is often 'new' yet is also based on existing training inputs). Copyright's existing infringement framework may prompt distinct assessments of liability for inputs and outputs,

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10   Katherine Lee, A Feder Cooper and James Grimmelmann, 'Talkin' 'bout AI Generation: Copyright and the Generative-AI Supply Chain (The Short Version)' (2024) 3 *ACM Symposium on Computer Science and Law* 48, 50 <https://dl.acm.org/doi/10.1145/3614407.3643696>. The authors map eight stages, from (1) creation of expressive works as the first step, to (2) data creation, (3) dataset collection/curation, (4) model (pre-)training, (5) fine-tuning, (6) deployment, (7) alignment and finally, (8) generation.

11   However, this article focuses on the fundamental thresholds for copyright liability, as opposed to the question of who should be liable under either primary or secondary liability principles.

12   This raises the question of whether what is retained in the model crosses the threshold from expression into ideas or information, which will be discussed further in Part IV(B).

matching potential infringing acts with the exclusive rights of copyright owners. However, the separation of our analysis into two or more steps brings a degree of artificiality. We should be cognisant of the need for a legal framework that addresses the system as a whole and what it effectively accomplishes.

A   GenAI Machine Learning

Before delving into copyright's doctrinal challenges, it is important to highlight key characteristics of GenAI. AI has been described as 'systems that display intelligent behaviour by analysing their environment and taking actions – with some degree of autonomy – to achieve specific goals'.[13] However, reference to 'intelligent behaviour' in the European Commission's report on AI for Europe seems to anthropomorphise AI.[14] The term AI may generate excitement about the creation of sentient machines, but the reality is that we do not have artificial general intelligence and current GenAI models are still statistical models (albeit very advanced and highly capable at solving specific problems).[15] Machine learning outputs are essentially predictions, and '[a] significant part of the craft of machine learning is to formulate a task as a prediction problem'.[16] GenAI models are 'generative' in that 'they produce outputs of the same modality as their training data'.[17] So a multimodal GenAI model is one trained on multiple modalities and able to produce another as output, for example, text-to-image generation. GenAI models can therefore be conceptualised as machine learning 'models that produce outputs that exhibit statistical properties derived from the examples on which they were trained'.[18]

There are clear differences between machine learning and human learning. With machine learning that enables GenAI, content must be copied, refined and analysed in several steps. A human being, on the other hand, perceives content and retains it in their memory. This imperfect recollection of content in the human brain, in itself, is not infringing even if it *could* lead to conscious or even subconscious copying down the track. It is the subsequent copying and output

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[13]   European Commission, *Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions: Artificial Intelligence for Europe* (Communication No COM/2018/237 Final, 25 April 2018) 1 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2018:237:FIN>.

[14]   Ibid 1.

[15]   See Andreas Kaplan and Michael Haenlein, 'Siri, Siri, in My Hand: Who's the Fairest in the Land? On the Interpretations, Illustrations, and Implications of Artificial Intelligence' (2019) 62(1) *Business Horizons* 15, 16 <https://doi.org/10.1016/j.bushor.2018.08.004>.

[16]   Thomas D Grant and Damon J Wischik, *On the Path to AI: Law's Prophecies and the Conceptual Foundations of the Machine Learning Age* (Palgrave Macmillan, 2020) 55 <https://doi.org/10.1007/978-3-030-43582-0>. As a term of art in machine learning, a 'prediction model' has the ability 'to predict the outcome for new unseen objects', following the use of a training set of data to observe the outcome and feature measurements for a set of objects: Trevor Hastie, Robert Tibshirani and Jerome Friedman, *The Elements of Statistical Learning: Data Mining, Inference, and Prediction* (Springer, 2nd ed, 2009) 2 <https://doi.org/10.1007/978-0-387-84858-7>.

[17]   A Feder Cooper and James Grimmelmann, 'The Files Are in the Computer: On Copyright, Memorization, and Generative AI' (2025) 100(1) *Chicago-Kent Law Review* 141, 149.

[18]   Ibid 150–1.

generated, if causally linked to what has been accessed and perceived, which gives rise to liability.[19] Put simply, reading expression and digesting it is not copyright infringement, and generally speaking, the consumption of content by human readers does not fall within the exclusive rights of the copyright owner.[20] Copies created, analysed and used to train GenAI, on the other hand, are tangible copies that can potentially be measured and monetised, thus giving rise to claims of infringement of the reproduction right.[21]

The prospect of infringement of the reproduction right could be reduced to a dichotomy: whether original expression of content is retained by these systems, or merely extracted as 'tokens' or statistical patterns of association. Though the reality, of course, is that the degree of such retention in GenAI systems lies on a spectrum. We can consider generative AI models such as ChatGPT or Meta's Llama models, classed as large language models ('LLMs'), which leverage neural networks to generate textual information from a user's input prompt, enabling natural language processing.[22] When a user provides input text (referred to as a 'prompt'), the sentences undergo the process of tokenisation, where the words are split into sub-word snippets or combinations of letters.[23] The tokens are numerically encoded, and in essence, the system is trained to respond to queries that prompt it to predict the most relevant formulation of tokens to form full sentence outputs.[24] Due to the nature of the transformer-based neural network architecture, the model does not appear to directly store whole or exact copies of textual works from the datasets in the training corpus.[25] Rather, the model utilises encoding to enable it to recognise relationships and patterns between facts.

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19   The causal connection or access requirement is discussed further in Part IV(A).
20   On broader arguments regarding copyright consumers and their fundamental right to read, see Jessica Litman, 'The Exclusive Right to Read' (1994) 13(1) *Cardozo Arts and Entertainment Law Journal* 29; Jessica Litman, 'Readers' Copyright' (2011) 58(2) *Journal of the Copyright Society of the USA* 325; Joseph P Liu, 'Copyright Law's Theory of the Consumer' (2003) 44(2) *Boston College Law Review* 397.
21   For early consideration of 'robot readership', and the contrasting position under US fair use doctrine which may exempt such robot readership, see James Grimmelmann, 'Copyright for Literate Robots' (2016) 101(2) *Iowa Law Review* 657 <https://doi.org/10.31219/osf.io/z38qm_v1>.
22   Desta Haileselassie Hagos, Rick Battle and Danda B Rawat, 'Recent Advances in Generative AI and Large Language Models: Current Status, Challenges, and Perspectives' (2024) 5(12) *IEEE Transactions on Artificial Intelligence* 5873 <https://doi.org/10.1109/TAI.2024.3444742>.
23   OpenAI, *GPT-4 Technical Report* (Technical Report No arXiv:2303.08774v6, 4 March 2024) 1–2 <https://doi.org/10.48550/arXiv.2303.08774>.
24   Ibid. See also Tianjie Ju et al, 'How Large Language Models Encode Context Knowledge? A Layer-Wise Probing Study' (Conference Paper, 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation, May 2024) <https://aclanthology.org/2024.lrec-main.722/>.
25   A transformer model is a deep learning model first introduced in 2017. It is now widely used in the training of LLMs, among other applications ('GPT' in ChatGPT stands for 'generative pre-trained transformer'). Compared to previous models, transformers are better at retaining context between inputs in different positions, and utilise a self-attention mechanism that weighs every word and the likelihood of its use in typical contexts: Cole Stryker and Dave Bergmann, 'What Is a Transformer Model?', *IBM* (Web Page, 28 March 2025) <https://www.ibm.com/topics/transformer-model>, citing Ashish Vaswani et al, 'Attention Is All You Need' (Conference Paper, Conference on Neural Information Processing Systems, December 2017) <https://papers.nips.cc/paper_files/paper/2017/file/3f5ee243547dee91fbd053c1c4a845 aa-Paper.pdf>.

However, these observations do not rule out the storage of copies of expression in these systems. Feder Cooper and James Grimmelmann have posited that memorisation of a portion of training data is inevitable, as such models memorise and generalise.[26] Whether such memorisation, at the training stage, results in regurgitation of the same content 'in practice depends on numerous choices by model creators and system designers'.[27] Such choices would be driven by the intention or aims of the system proprietors in relation to the function of the GenAI system. An example is an emerging technique known as Retrieval Augmented Generation ('RAG'), which enables LLMs which have already been pre-trained on existing datasets to have additional contextually relevant information provided in the output response.[28] RAG involves the input being tokenised and then stored in more continuous, multi-dimensional spaces, thus potentially preserving the data in chunks.[29] This technique enables sentences, paragraphs, and complete works of text to be retrieved in full 'as a chunk',[30] which may satisfy a certain purpose or function, depending on the use case.

While RAG intentionally preserves data in chunks and facilitates regurgitation of training data, regurgitation as an affliction of GenAI models could also arise inadvertently through the 'overfitting' of a model. Overfitting occurs when a model is unable to learn the general patterns of its training data, which has the undesirable effect of making ineffective predictions on new or unseen data.[31] In essence, it fails to 'generalise' and instead memorises the training dataset. This can be attributed to limited training data size and noisy data that adversely affect a model's performance by giving weight to features that do not accurately represent the desired output.[32] Intentional or not, this is also a result of system design.

In addition to LLMs, which are more suited for analysing and generating text, other GenAI tools are better suited to analysing and generating diverse forms of expression such as images, audio and video.[33] An example of this is a generative adversarial network ('GAN') that utilises two neural networks, a generator and a discriminator, pitted against each other to produce outputs that mimic real-world examples.[34] The generator formulates outputs which are evaluated by the discriminator, the job of which is to 'differentiate between real data samples from

26   Cooper and Grimmelmann (n 17) 157–8.

27   Ibid 164.

28   Spurthi Setty et al, 'Improving Retrieval for RAG Based Question Answering Models on Financial Documents' (Conference Paper No arXiv:2404.07221v2, 1 August 2024) 3–4 <http://arxiv.org/abs/2404.07221>.

29   Ibid.

30   Ibid.

31   Runqi Lin et al, 'On the Over-memorization During Natural, Robust and Catastrophic Overfitting' (Conference Paper No arXiv:2310.08847v4, ICLR 2024 International Conference on Learning Representations,14 September 2024) 1–2 <https://arxiv.org/pdf/2310.08847>.

32   Xue Ying, 'An Overview of Overfitting and its Solutions' (2019) 1168(2) *Journal of Physics: Conference Series* 1.

33   Examples of copyright disputes involving different mediums is discussed in Part III.

34   Ajay Sharma, 'Generative Adversarial Network (GAN)', *Medium* (Blog Post, 16 October 2024) <https://medium.com/@email.ajaysharma97/gan-generative-adversarial-networks-popular-genai-algorithm-43950cd10266>.

the training set and fake samples produced by the generator'.[35] The generator seeks to fool the discriminator and gets better at this through feedback from the discriminator over time.[36]

This is just a snapshot of some techniques used in GenAI models to date. It is not possible to traverse all the machine learning methods or systems, but in summary, whether expressive copyright content is being memorised or regurgitated by GenAI will depend on the nature of the machine learning system being utilised. Whether it is efficient or necessary for copyright expression to be retained verbatim in these systems is unclear, and how much is retained is unclear, but we must be mindful that this is dependent on the purpose and design of the GenAI model. Such design characteristics and qualities could be assessed in copyright infringement actions or be subject to regulation.

B Inputs

The use of copyright works in AI training inputs has given rise to claims for infringement of the reproduction right, as the process of training GenAI would require the making of copies of such content. Such claims of infringement of the reproduction right could also extend to the GenAI models themselves if it can be shown that a model retains copies of works following the machine learning process. In the US, fair use has excused functional background reproductions from copyright infringement, though whether this will be upheld in the context of GenAI remains to be seen.[37] In *Authors Guild v Google Inc*[38] and *Authors Guild Inc v HathiTrust*,[39] for example, mass scanning and copying of books in full were considered fair as this copying was necessary to enable the 'transformative' purposes of these tools or platforms.[40] HathiTrust enabled library patrons to conduct full text searches of books in library catalogues, while Google Books allowed the full text searching of a vast corpus of books and showed users snippet results.[41] These snippet results usefully provided context to the search results, but were not substantial enough to function as substitutes for the books themselves.[42] These cases illustrate how

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35   Ibid.

36   Ibid; 'Generative Adversarial Network', *Wikipedia* (Web Page, 19 October 2024) <https://en.wikipedia.org/w/index.php?title=Generative_adversarial_network&oldid=1252093830>.

37   See the discussion of US examples such as *Kadrey* (n 7) and *NYT v Microsoft* Complaint (n 6) in Part III(A).

38   *Authors Guild v Google Inc*, 804 F 3d 202 (2nd Cir, 2015) ('*Guild v Google*')

39   *Authors Guild Inc v HathiTrust*, 755 F 3d 87 (2nd Cir, 2014) ('*Guild v HathiTrust*').

40   A transformative use under US fair use is one that '[alters] the first [work] with new expression, meaning, or message': *Campbell v Acuff-Rose Music Inc*, 510 US 569, 579 (Souter J for the Court) (1994) ('*Campbell v Acuff-Rose*'). With the advent of new copying and communication technologies, such as videocassette recorders, the concept of transformative fair use has broadened to include transformative purposes, enabling 'a variety of technological fair uses that copied entire works without accompanying commentary, criticism or other substantive intervention in the work's content': Jane C Ginsburg, 'Fair Use in the United States: Transformed, Deformed, Reformed?' [2020] (March) *Singapore Journal of Legal Studies* 265, 266–8, citing *Sony Corporation of America v Universal City Studios Inc*, 464 US 417 (1984) ('*Sony*').

41   *Guild v HathiTrust* (n 39) 90–2 (Parker J for the Court); *Guild v Google* (n 38) 208–10 (Leval J for the Court).

42   *Guild v Google* (n 38) 222–5 (Leval J for the Court).

background copying may be considered fair provided the resulting outcome is transformative.[43]

However, such findings turn on the nature of the outputs (ie, how substantial they are) and whether they are market substitutes for the inputs. By way of contrast, in *Fox News Network LLC v TVEyes Inc* ('*Fox v TVEyes*'), 10 minutes of news media content provided in response to a search term was considered too long to be fair, despite the service being 'somewhat transformative' as a novel media monitoring tool.[44] Again, the focus of the substantiality analysis and consideration of impact on the market (factors three and four) under fair use remained on the outputs provided to users, not the full-scale background reproductions needed to generate the outputs.[45] *Thomson Reuters v Ross Intelligence*, a 2025 summary judgment of the District Court of Delaware, reinforces this focus on outputs.[46] The case involved the copying of case headnotes in Thomson Reuters' Westlaw legal database to develop an AI-driven legal research tool.[47] Judge Bibas denied the defendant's fair use claim, finding that Ross' use was not transformative. The broad purpose and character of the use was taken into account, and importantly the fact that Ross 'meant to compete with Westlaw by developing a market substitute'.[48] Indeed, there may have been public benefits of enhancing access to the law, but this could have been achieved by analysing the text of the law and not using Thomson Reuters' copyright-protected headnotes.[49]

In Australia, there is no open-ended fair use exception, and specific exceptions for temporary or technical copying are narrow.[50] In contrast to the US position, a system's transformative character is irrelevant and cannot excuse background reproductions of content in Australia. It may be argued that background copying of content for text and data mining or machine learning *should* not be infringing, as such instances do not involve 'expressive use' of copyrighted material, and therefore should be considered 'immaterial' copying beyond the scope of the reproduction right.[51] However, there is also scope to argue that in the GenAI context, expression is utilised and valued, albeit in a functional manner to enable

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43   Ibid 229; *Guild v HathiTrust* (n 39) 97 (Parker J for the Court).

44   883 F 3d 169, 178, 180–1 (Jacobs J, Kaplan J agreeing at 182) (2ⁿᵈ Cir, 2018) ('*Fox v TVEyes*').

45   Ibid 179. This is because the plaintiff challenged the watch function, though the Court considered how its inclusion 'renders TVEyes's package of services unprotected by the fair use doctrine': at 176.

46   765 F Supp 3d 382, 400–1 (Bibas J) (D Del, 2025) ('*Thomson v Ross*').

47   Judge Bibas pointed out twice that this case was not about GenAI: ibid 398–9. Note that whether the plaintiff's content was used in training data at all was also contested. Therefore, a substantial part of the judgment also discussed the extent the original copyright headnotes were incorporated by human lawyers engaged by the defendant (not GenAI) into the content used (described as 'bulk memos'): at 393–6.

48   Ibid 397–400. These points related to the first and fourth fair use factors. The consideration of broad purpose was said to fit 'more neatly into the newer framework advanced by *Warhol*', citing *Andy Warhol Foundation for the Visual Arts Inc v Goldsmith*, 143 S Ct 1258 (2023) ('*Warhol*'). On criticisms of the *Warhol* decision and its inapt focus on licensing as the relevant 'use', see Peter J Karol, 'What's the Use? The Structural Flaw Undermining *Warhol v Goldsmith*' (2024) 71(1) *Journal of the Copyright Society of the USA* 107.

49   *Thomson v Ross* (n 46) 400 (Bibas J).

50   *Copyright Act 1968* (Cth) ss 43A, 111A.

51   Cheryl Foong, 'Immaterial Copying in the Age of Access' (2022) 44(9) *European Intellectual Property Review* 513.

the workings of GenAI models. Nevertheless, putting aside normative arguments about immaterial copying, the position in Australia provides limited flexibility to allow unauthorised machine learning for GenAI.

US law therefore does not provide clear guidance for the development of a flexible approach in Australia, given its heavy reliance on the open-ended fair use exception. In any case, whether or not background reproductions for purposes of GenAI training will be considered fair use in the US is still unclear and will depend on the precise circumstances of the case.[52] As *Fox v TVEyes* and *Thomson v Ross Intelligence* show, the substitutive nature of outputs will be taken into account in assessing whether use within the system as a whole is fair. Though the position in Australia seems clear, liability on the basis of a technical interpretation of the reproduction right should be questioned given possible impacts on GenAI innovation in Australia. In this regard, the US is on the right track by assessing the use of copyright content in the system as a whole, rather than considering inputs in isolation.

Envision a future where machine learning technologies can browse, scan and learn from online or physical copyright content without making any reproductions (or merely making transient copies) and then capture the concepts from it, like human readers.[53] This may require a stretch of one's imagination given the present need to filter and refine training data when training these AI models, but technology is constantly evolving in ways unimaginable decades ago. So while focusing the copyright infringement analysis on background reproductions at the input stage may seem a sound strategy presently, this approach could become redundant as technology surpasses expectations.

C Outputs

A major concern raised by GenAI outputs is the potential for such prompted outputs to act as market substitutes for original human-authored works. GenAI capabilities could effectively replace human labour and skill, while being built on such labour and skill that has been invested in these training inputs. However, a wide set of human labour and skills may be replaced by GenAI capabilities, not just creative labour and skills; this is a much broader question that copyright is not well-equipped to address.[54] As Oren Bracha recognises, there is a pertinent need to disentangle copyright concerns from broader threats to human livelihoods affected

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52   For an explanation of how GenAI training data fair use cases will turn on assessments of the market effects factor, see Pamela Samuelson, 'Fair Use Defenses in Disruptive Technology Cases' (2024) 71 *UCLA Law Review* 1484, 1570–1.

53   See Annette Kur, Nari Lee and Anna Tischner, *Fairness in Intellectual Property Law: Searching for a Uniform Concept* (Edward Elgar, 2024) 436 <https://doi.org/10.4337/9781800883062>.

54   Samuelson (n 52) 1568–9. For comparison, another concern unrelated to copyright law is AI's environmental impacts, for example through excessive water consumption: see, eg, Joyeeta Gupta, Hilmer Bosch and Luc van Vliet, 'AI's Excessive Water Consumption Threatens to Drown out Its Environmental Contributions', *The Conversation* (online, 22 March 2024) <http://theconversation.com/ais-excessive-water-consumption-threatens-to-drown-out-its-environmental-contributions-225854>.

by 'machine creativity'.[55] An important guiding beacon that prevents copyright overreach is its protection of original *expression*, which is central to copyright infringement actions even if the legal tests and approaches vary.

GenAI is unlike previous challenges for copyright law, which, as Dan L Burk has observed, lowered 'the cost of appropriability for works that are expensive to create'.[56] The printing press at copyright's inception is one example and so are photocopying and digital copying online, in more recent times. GenAI, on the other hand, makes 'initial creation itself inexpensive', something Burk calls 'cheap creativity'.[57] Cheap creativity could also be described as the 'massification' of digital creation,[58] enabling anyone with access to GenAI tools to produce what previously would require significant skills and investment in equipment. Burk describes this as a partial solution to the incentive-access paradigm.[59]

Copyright's incentive-access paradigm, in line with a utilitarian theory of copyright,[60] sees access and incentives as trade-offs – greater access leads to lower incentives and vice versa. This author has conceptualised copyright in terms of its functions, with two core functions serving to: (1) incentivise authorship ('its authorship function') and (2) encourage the dissemination of knowledge ('its dissemination function').[61] Rather than seeing them as trade-offs, this conception prompts us to consider how copyright's doctrinal and regulatory framework facilitates these functions in tandem, taking into account the impacts of copyright doctrine on markets for expression and dissemination.[62] Consideration of markets ensures that our analysis of exclusive rights is not isolated from their context.[63]

GenAI's non-identical outputs in response to user prompts raise challenges for copyright's authorship function. Relevant here is scholarship that considers how the scope of copyright protection in expression affects market conditions, and in particular, the diversity of expression vying for consumer demand. Scholarship

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55   Oren Bracha, 'The Work of Copyright in the Age of Machine Production' (2024) 38(1) *Harvard Journal of Law and Technology* 171.

56   Dan L Burk, 'Cheap Creativity and What It Will Do' (2023) 57(4) *Georgia Law Review* 1669, 1680 (emphasis omitted).

57   Ibid.

58   See Célia F Matias, 'Generative AI, Copyright and Emancipation: The Case of Digital Art' (2024) 6(3) *Law, Technology and Humans* 123, 131 <https://doi.org/10.5204/lthj.3567>.

59   Burk (n 56) 1680.

60   See, eg, Glynn S Lunney Jr, 'Reexamining Copyright's Incentives-Access Paradigm' (1996) 49(3) *Vanderbilt Law Review* 483.

61   Cheryl Foong, *The Making Available Right: Realizing the Potential of Copyright's Dissemination Function in the Digital Age* (Edward Elgar, 2019) 253–4 <https://doi.org/10.4337/9781788978187> ('*The Making Available Right*').

62   Also relevant here is the conception of copyright as trade regulation: Lyman Ray Patterson, 'Private Copyright and Public Communication: Free Speech Endangered' (1975) 28(6) *Vanderbilt Law Review* 1161, 1194. See also Niva Elkin-Koren, 'It's All About Control: Rethinking Copyright in the New Information Landscape' in Niva Elkin-Koren and Neil Weinstock Netanel (eds), *The Commodification of Information* (Kluwer Law International, 2002) 79, 80 (describing copyright as a 'market control mechanism').

63   This author has explored copyright's dissemination function elsewhere, critiquing conventional approaches to utilitarian theory or the access-incentive paradigm that emphasise protections to encourage authorship (and assume that efficient dissemination will follow from strong protections): Foong, *The Making Available Right* (n 61) 46–50.

on 'product differentiation theory', preceding the advent of GenAI, has analysed copyright's role in encouraging differentiation between works.[64] The degree of heterogeneity in works created would tend to be calibrated by the substantial or objective similarity requirements of copyright infringement in the first instance, but is also affected by exceptions such as fair use.[65] The theory is that the lower the threshold of similarity needed to prove copyright infringement, the easier an infringement action would be and therefore, the more heterogeneous or differentiated copyright works will be.

Scholarship about differentiated competition and market entry highlights how copyright calibrates *expressive competition*, ie, the range and diversity of expression that satisfies consumer demand.[66] The same type of competition arises between original, human-authored works and the outputs generated using GenAI that could divert demand from human-authored works. Saturation of the market with similar works would lead to a greater supply to meet demand, thus lower remuneration garnered by human creators of content. This increased expressive competition is caused by a greater volume of content saturating the market for expression, which in turn could lead to a negative impact on authorship incentives.

As mentioned, Burk has characterised GenAI as a *partial* solution to copyright's access-incentive paradigm.[67] An argument could be made that it is more likely to affect incentives for works at the generic end of the spectrum. Day-to-day functional uses of GenAI to solve problems or fill in blanks would tend to produce outputs that are substitutable for generic works of authorship. For example, Uri Y Hacohen and Niva Elkin-Koren's scholarship highlights how GenAI extracts and is more likely to reproduce generic characteristics present in a large number of works within vast datasets used to train GenAI models.[68] An example given is the tasking of Stable Diffusion to complete the apple from René Magritte's famous painting 'The Son of Man', which would tend to result in a reconstructed version

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64   One perspective, put forward by Michael Abramowicz, is that up to a certain point saturating the market with a greater range of homogeneous copyright works is duplicative and not socially beneficial: Michael Abramowicz, 'An Industrial Organization Approach to Copyright Law' (2004) 46(1) *William and Mary Law Review* 33, 110; Michael Abramowicz, 'A New Uneasy Case for Copyright' (2011) 79(6) *George Washington Law Review* 1644, 1647–8. See also Michael Abramowicz, 'A Theory of Copyright's Derivative Right and Related Doctrines' (2005) 90(2) *Minnesota Law Review* 317. Abramowicz favours an approach to the reproduction and derivative works rights which relaxes the similarity requirement, ie, a lower level of similarity would be sufficient to prove infringement. In contrast, Christopher Yoo has proposed that copyright law promotes less significant differentiation between works (ie, allowing closer resemblance between works) but reward the creators of this greater density of differentiated works with stronger exploitation rights (eg, broader interpretations of the communication right): Christopher S Yoo, 'Copyright and Product Differentiation' (2004) 79(1) *New York University Law Review* 212, 265.

65   These similarity requirements will be discussed in more depth in Part IV(A).

66   Cheryl Foong, 'Reconceptualising Copyright Markets: Disseminative Competition as a Key Functional Dimension' (2021) 44(3) *University of New South Wales Law Journal* 1014, 1032–4 <https://doi.org/10.53637/REJI4336>.

67   Burk (n 56) 1680.

68   Uri Y Hacohen and Niva Elkin-Koren, 'Copyright Regenerated: Harnessing GenAI to Measure Originality and Copyright Scope' (2024) 37(2) *Harvard Journal of Law and Technology* 555 <https://doi.org/10.2139/ssrn.4530717>.

with human faces rather than apples.[69] This is because depictions of men's faces are much more prevalent in training images than men with apples floating in front of their faces.[70]

That example illustrates how minimal prompting results in generic outputs of expression that have problem-solving functions. Of course, the way in which users prompt GenAI models could lead to greatly variable outputs.[71] More complex and sophisticated prompting of GenAI models could produce creative outputs that are far from generic and pose as substitutes for original human-authored works.[72] However, deeming inputs to be infringing fails to recognise that GenAI models have functional applications in vastly different ways, many of which are non-infringing.[73] A copyright assessment of outputs relative to inputs (rather than considering training inputs in isolation as infringing reproductions) permits a context-specific assessment of how GenAI models are being used to cause copyright-related harms, rather than deeming the initial training steps (and effectively their existence) an infringement of copyright.[74]

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69   Ibid 593.

70   Ibid.

71   Francesca Mazzi, 'Authorship in Artificial Intelligence-Generated Works: Exploring Originality in Text Prompts and Artificial Intelligence Outputs through Philosophical Foundations of Copyright and Collage Protection' (2024) 27(3) *Journal of World Intellectual Property* 410, 413–14 <https://doi.org/10.1111/jwip.12310>.

72   Notable here is Mark Fenwick and Paulius Jurcys' observation that GenAI 'accelerates the process of creativity' and that people who worry that AI tools will replace humans should 'worry less and learn how to use those tools to increase their own productivity': Mark Fenwick and Paulius Jurcys, 'Originality and the Future of Copyright in an Age of Generative AI' (2023) 51 *Computer Law and Security Review* 105892, 9 <https://doi.org/10.1016/j.clsr.2023.105892>. See also ibid 423.

73   This brings to mind the notion of 'substantially non-infringing use' from US case law on fair use, notably the *Sony* (n 40) case. While this article does not delve into issues of fair use and contributory infringement that featured prominently in *Sony*, the impact of copyright law on technological innovation remains relevant. On fair use and GenAI, see Samuelson (n 52).

74   This article does not address the question of whether GenAI outputs should be considered copyright protected works. Some have questioned this as a form of 'second-degree intellectual property': Daniel J Gervais, 'Second-Degree Intellectual Property' (2024) 39(3) *Berkeley Technology Law Journal* 1091 <https://doi.org/10.2139/ssrn.5143311>. Others have recognised that 'creation has always been the product of human-machine hybrid forms of collaborative creation' and that 'generative AI is merely the latest and most sophisticated iteration of such a trend', emphasising the adoption or intent regarding final conception as supplying the relevant originality: Fenwick and Jurcys (n 72) 7–9. While most jurisdictions have refrained from recognising copyright in AI generated content, Chinese courts have upheld copyright protection: «李昀锴诉刘元春» [Li Yunkai v Liu Yuanchun], 北京互联网法院 [Beijing Internet Court, People's Republic of China], 京0491民初11279号 [Beijing 0491 Civil No 11279], 27 November 2023; «深圳市腾讯计算机系统有限公司与上海盈讯科技有限公司» [Shenzhen Tencent Computer Systems Co Ltd v Shanghai Yingxun Technology Co Ltd], 深圳市南山区人民法院 [Shenzhen Nanshan District People's Court, People's Republic of China], 粤0305民初14010号 [Guangdong 0305 Civil No 14010], 24 December 2019. Cf *Thaler v Perlmutter*, 687 F Supp 3d 140 (D DC, 2023).

III GENAI COPYRIGHT INFRINGEMENT LITIGATION

The questions and concerns outlined above present themselves in GenAI copyright disputes in different ways.[75] While the context and approaches vary in each dispute, general patterns can be distilled. From a broader standpoint, plaintiffs typically argue that generative AI platforms produce competing substitutes that divert income and attention from existing authored works.[76] They also assert that the similarity between AI-generated outputs and their original creations proves that the AI tools were trained using their copyrighted works (ie, proof of 'the "input" issue').[77] Depending on the evidence available, plaintiffs may also assert that the outputs are infringing, if the level of similarity meets the doctrinal test of 'substantial similarity' ('the "output" issue').[78]

Defendants, on the other hand, frequently contend that the outputs generated by GenAI tools do not replicate original authored content and are therefore non-infringing.[79] Defendants may also emphasise that certain types of information *about* works or styles and genres incorporated into the training models are not protected by copyright.[80] Moreover, US defendants often argue that the inputs used to train the AI fall under the fair use doctrine.[81] In addition, defendants tend to be opaque about the datasets used to train their GenAI technology.[82] Of course, these narratives are dictated by the relevant doctrine, such as the availability of fair use.

A Text

Numerous cases have been brought in various jurisdictions for the use of literary works to train LLMs. In the US context, plaintiffs that are unable to show sufficient similarity between inputs of plaintiffs' works and outputs generated by users have not had success.[83] Furthermore, a key doctrine supporting defendants'

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75   The discussion that follows highlights recurring themes that emerge in these disputes as representative examples. It does not attempt to cover the rapidly growing number of cases being filed globally, but outlines select US cases involving literary works, artistic works and sound recordings. The discussion largely covers US disputes given the number and variety arising, and also considers a Chinese case for contrast.

76   See, eg, *NYT v Microsoft* Complaint (n 6) [110], [157].

77   This is particularly evident in cases involving music, where sound recordings serve as the basis for claims of copyright infringement at the input stage of the AI model's development, as reproduction of a sound recording requires actual copying of the sounds captured and not mere imitation: see the discussion of disputes involving the Suno and Udio services at Part III(C).

78   See, eg, *NYT v Microsoft* Complaint (n 6) [102]–[103], [163]–[164].

79   Microsoft Corporation, 'Memorandum of Law in Support of OpenAI Defendants', Motion to Dismiss, Memorandum of Law in *The New York Times Co v Microsoft Corporation* (SD NY, No 1:23-CV-11195 (SHS) (OTW), 26 February 2024) 19–23 ('*NYT v Microsoft* February Memorandum of Law').

80   See Benjamin LW Sobel, 'Elements of Style: Copyright, Similarity, and Generative AI' (2024) 38(1) *Harvard Journal of Law and Technology* 49.

81   See, eg, *NYT v Microsoft* February Memorandum of Law (n 79) 7–8.

82   See, eg, UMG Recordings Inc, 'Complaint', Complaint in *UMG Recordings Inc v Suno Inc* (D Mass, No 1:24-CV-11611, 24 June 2024) [8] ('*UMG v Suno* Complaint'); UMG Recordings Inc, 'Complaint', Complaint in *UMG Recordings Inc v Uncharted Labs Inc* (SD NY, No 1:24-CV-04777, 24 June 2024) [8] ('*UMG v Uncharted* Complaint').

83   See, eg, *Tremblay v OpenAI Inc*, 716 F Supp 3d 772, 778, 780 (Martínez-Olguín J) (ND Cal, 2024).

positions has been the fair use exception and its potential to excuse background, technical copying for transformative purposes.[84] As mentioned, fair use in the US has kept much of the focus of liability assessments on outputs and their effects, as well as inputs. Strategically, plaintiffs have sought to target the proprietors of GenAI models, as opposed to individual users.[85]

Class actions brought by authors of published books such as Michael Chabon and Richard Kadrey, for example, resulted in the granting of motions to dismiss by the US District Court of the Northern District of California in *Kadrey*.[86] While Meta's motion to dismiss did not address the allegation that copying of the plaintiff's books for the purposes of training Llama was infringing, the reasons for dismissal on other issues effectively undermined this claim. The plaintiffs fell short on the allegation that every output generated by users using Llama was an infringing derivative work and that Meta was vicariously liable for these outputs. Judge Chhabria made it clear that '[w]ithout any plausible allegation of an infringing output, there can be no vicarious infringement' on the part of Meta.[87] In order for the outputs to be derivative infringements, they would have to be 'substantially similar' to the plaintiff's works,[88] yet 'the complaint offers no allegation of the contents of any output', as Judge Chhabria observed.[89] This points towards the weaknesses of the claims and evidence presented by the parties.[90]

In contrast, the *New York Times v Microsoft*[91] complaint very clearly specified instances of regurgitation of NY Times articles. Similar to the Kadrey and Chabon complaints, the plaintiff claimed that datasets used by OpenAI to train its ChatGPT GenAI tool contained millions of copies of NY Times articles, and in storing, processing and reproducing the training datasets, OpenAI (and its partner Microsoft) had jointly infringed NY Times' copyright.[92] In addition, NY Times

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84 Fair use was not explicit in Meta's responses to specific claims in the motion to dismiss, though is present in Meta's introduction to the motion. Meta stated that '[c]opyright law does not protect facts or the syntactical, structural, and linguistic information that may have been extracted from books like Plaintiffs' during training. Use of texts to train Llama to statistically model language and generate original expression is transformative by nature and quintessential fair use': Meta Platforms Inc, 'Motion to Dismiss Complaint', Motion in *Kadrey v Meta Platforms Inc* (ND Cal, No 3:23-CV-03417-VC, 18 September 2023) 2.

85 Further discussion of this is in Part IV.

86 *Kadrey* (n 7).

87 Ibid [2], citing *Perfect 10 Inc v Amazon.com Inc*, 508 F 3d 1146, 1169 (Ikuta J) (9th Cir, 2007).

88 Ibid.

89 Ibid.

90 Note that claims under the *Digital Millennium Copyright Act*, Pub L No 105-304, 112 Stat 2860 (1998) ('*Digital Millennium Copyright Act*') for removal of copyright management information, unfair competition and unjust enrichment were also dismissed, but this article will revisit unfair competition principles in Part V(A).

91 *NYT v Microsoft* Complaint (n 6).

92 Since 2019, Microsoft (the first defendant) had provided OpenAI with a technological infrastructure to train its LLMs. As Microsoft's supercomputing system was able to manage the immense workload of training an LLM, it was integral in bringing OpenAI's GPT-based products to the public: Microsoft Corporation, 'Memorandum in Support of Partial Motion to Dismiss the Complaint', Memorandum of Law in *The New York Times Co v Microsoft Corporation* (SD NY, No 1:23-CV-11195-SHS, 4 March 2024) 5 ('*NYT v Microsoft* March Memorandum of Law'). Note that Microsoft was also subject to vicarious and contributory infringement claims, which are not discussed here: *NYT v Microsoft* Complaint (n 6) 61–3.

claimed that the GPT-3 model memorised these works and disseminated outputs that contained copies and derivatives of the works, showing results that were substantially similar to NY Times's works.[93] Numerous examples were presented by NY Times in the complaint, including the infamous scathing critique of Guy Fieri's American Kitchen & Bar published by the NY Times in 2012.[94] Prompts asking for the opening paragraphs of the review, followed up by questions seeking the next sentence (and next sentence, and so on) resulted in verbatim sentences and paragraphs from the NY Times published article.[95]

The case presents more convincing arguments about the expressive use of NY Times' articles as inputs. The complaint highlighted that the WebText2 dataset, one of several datasets used to train ChatGPT, prioritised high value content like NY Times articles.[96] Furthermore, Common Crawl, the most highly weighted dataset in GPT-3, included over 16 million unique records of content from NY Times.[97] Citing an OpenAI research paper stating that 'datasets we view as higher-quality are sampled more frequently' during training, NY Times drew inferences that its content and the expression within are more important and valuable for training GPT-3 compared to other sources of content.[98]

On the demand substitution by outputs, NY Times argued that ChatGPT created 'natural-language substitutes that serve the same informative purpose as the original', alluding to and pre-empting OpenAI's reliance on the fair use exception.[99] It explained that because 'expressive content is already quoted or paraphrased in the narrative result' in ChatGPT responses, users would have less need to navigate to sources.[100] Therefore, ChatGPT search results would 'divert important traffic away from copyright holders' such as NY Times.[101] Crucially, NY Times argued that ChatGPT search outputs did not include prominent links to NY Times source articles.[102] Beyond copyright law, but relevant to the demand substitution concerns, were arguments made in support of the unfair competition by misappropriation claim.[103] OpenAI and Microsoft were said to profit greatly from NY Times' investment of billions of dollars in quality journalism over nearly a century.[104] The complaint further cited the increase in value of Microsoft's

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93   *NYT v Microsoft* Complaint (n 6) 32 [102].
94   Ibid 34–7.
95   Ibid 35–6.
96   Ibid 26 [87].
97   Ibid 27 [89].
98   Ibid 27 [90], quoting Tom B Brown et al, 'Language Models Are Few-Shot Learners' (Paper No arXiv:2005.14165v4, arXiv, 22 July 2020) 8 <https://doi.org/10.48550/arXiv.2005.14165>.
99   *NYT v Microsoft* Complaint (n 6) 37 [108]. Note that fair use is only mentioned in describing the nature of the action and noting the defendants' refusal to negotiate a licence and insistence that their conduct is permitted as a 'transformative' fair use: at 3–4 [7]–[8]. Arguments against any transformative purpose are again raised at 59 [155] in the context of discussing harm suffered.
100   Ibid 37 [109].
101   Ibid 38 [110]. See also ibid 59 [157].
102   Ibid 40 [114], 42 [117], 44 [120], 46 [123].
103   Unfair competition will be considered in Part V(A).
104   *NYT v Microsoft* Complaint (n 6) 55–6 [144].

investments in OpenAI and the increased profits from integration of ChatGPT in Microsoft's Bing search engine and 365 Office products.[105]

OpenAI's partial motion to dismiss did not refute the direct copyright infringement claim, but addressed other actions such as contributory infringement and unfair competition, and sought to limit the copyright direct infringement claim to acts within three years before the action.[106] The latter, if successful, would have limited discovery to activities within the limitation period. It would also mean that use of NY Times content outside this period would not be considered infringing, particularly if it is shown that the ChatGPT does not retain copyright content after the training process. This motion was unsuccessful, as it was not shown that NY Times discovered the relevant facts early on and the contributory infringement action was considered plausible and allowed to proceed.[107] While the dispute is ongoing, it nevertheless shows the linked nature of inputs and outputs, and highlights the importance of memorisation and regurgitation to a copyright infringement action.[108]

B   Visual Art

In the visual art context, GenAI tools that are trained on and can generate photos and images have likewise prompted numerous copyright claims in several jurisdictions.[109] *Andersen v Stability AI Ltd*,[110] a US case in which direct copyright claims have survived two motions to dismiss, has been celebrated by the media as a 'major win' for artists.[111] In contrast to the dismissal in *Kadrey*, Orrick J of the Northern District of California in *Andersen v Stability AI Ltd* did not dismiss the plaintiff's claims of direct infringement, despite the plaintiff's admission that

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105   These came from increased usage of Microsoft's Bing search and higher associated advertising revenues upon integration of GPT-4 in Bing, and add-on licence fees for inclusion of AI features in 365 Office products: ibid 57–8 [151]–[153].

106   *NYT v Microsoft* February Memorandum of Law (n 79). Note also Microsoft's main argument in its motion to dismiss asserted that the New York Times ('NY Times') sought to improperly impose liability based 'solely [on] the design or distribution of a product capable of substantial lawful use': *NYT v Microsoft* March Memorandum of Law (n 92) 10, quoting *Metro-Goldwyn-Mayer Studios Inc v Grokster Ltd*, 545 US 913, 933 (Souter J for the Court) (2005) ('*MGM v Grokster*').

107   *The New York Times Co v Microsoft Corporation*, 777 F Supp 3d 283, 328–9 [62] (Stein J) (SD NY, 2025) ('*NYT v Microsoft* Decision').

108   At the time of writing, OpenAI was still seeking access to NY Times' reporters' notes, interview memos and materials cited, claiming that this was necessary to determine the extent to which content in the articles were owned by NY Times: Todd Bishop, 'New York Times Co Fights OpenAI's Request for Reporters' Source Materials in Copyright Dispute', *GeekWire* (online, 8 July 2024) <https://www.geekwire.com/2024/new-york-times-co-fights-openais-request-for-reporters-source-materials-in-copyright-dispute/>.

109   In addition to the disputes discussed here, there is also litigation in the United Kingdom ('UK') and US brought by Getty Images against Stability AI: *Getty Images v Stability AI Ltd* [2025] EWHC 38 (Ch); Getty Images (US) Inc, 'Complaint', Complaint in *Getty Images (US) Inc v Stability AI Inc* (D Del, No 1:23-CV-00135-UNA, 3 February 2023) ('*Getty v Stability* Complaint').

110   744 F Supp 3d 956 (ND Cal, 2024) ('*Andersen* 2024 Order'); 700 F Supp 3d 853 (ND Cal, 2023) ('*Andersen* 2023 Order').

111   See, eg, Winston Cho, 'Artists Score Major Win in Copyright Case Against AI Art Generators', *The Hollywood Reporter* (online, 13 August 2024) <https://www.hollywoodreporter.com/business/business-news/artists-score-major-win-copyright-case-against-ai-art-generators-1235973601/>.

'[i]n general, none of the Stable Diffusion output images provided in response to a particular Text Prompt is likely to be a close match for any specific image in training data'.[112]

This class action was brought by artists against Stability AI for the use of their artistic works as 'training images' for Stable Diffusion, AI software that made a text-to-image generator available to its users.[113] On the theory that the outputs would be derivative works of the plaintiff's works, Orrick J recognised that 'the alleged infringer's derivative work must still bear some similarity to the original work', and was 'not convinced that copyright claims based [on] a derivative theory can survive absent "substantial similarity" type allegations'.[114] Despite doubting the sufficiency of the level of similarity for a direct liability claim, the plaintiffs were granted leave to amend their complaint and clarify their theories of liability and facts.[115]

In the order granting in part and denying in part motions to dismiss the amended complaint, it was again recognised that there were 'no allegations that any output from Stable Diffusion was identical to a plaintiff's work'.[116] The court nevertheless considered the claim that Stability AI induced copyright infringement to be sufficient and did not dismiss it. Judge Orrick found there to be a plausible inference that 'Stable Diffusion *by operation* by end users creates copyright infringement and was created to facilitate that infringement by design' and whether this was a glitch or by design 'will be tested at a later date'.[117]

Orrick J further agreed with the plaintiffs' allegation that 'Stable Diffusion is built to a significant extent on copyrighted works and that the way the product operates necessarily *invokes* copies or protected elements of those works'.[118] Use of the term 'invokes' avoids pinpointing the specific copyright infringing act. In addition, it was noted that theories of liability based on the model itself as an infringing work would 'depend on whether plaintiffs' protected works are contained, in some manner, in Stable Diffusion'.[119] Orrick J surmised that the works may be contained in Stable Diffusion as 'algorithmic or mathematical representations',

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112   *Andersen* 2023 Order (n 110) 861, 879.

113   Ibid 860; *Andersen* 2024 Order (n 110) 963–4.

114   *Andersen* 2023 Order (n 110) 868. Several cases are cited and quoted in support, including *Guild v Google* (n 38) 225 (Leval J for the Court): 'derivative works over which the author of the original enjoys exclusive rights ordinarily are those that re-present the protected aspects of the original work, ie, its expressive content'.

115   *Andersen* 2023 Order (n 110) 879.

116   These findings were made in the context of *Digital Millennium Copyright Act* (n 90) claims on removal of copyright management information, which would have required identical reproductions: *Andersen* 2024 Order (n 110) 971.

117   Ibid 969 (emphasis in original). Evidence taken into account by the court included comments by Stability's CEO that Stability had taken 100,000 gigabytes of images and compressed them into a two-gigabyte file that could "recreate" any of those images, and academic articles indicating that 'training images can sometimes be reproduced as outputs': at 968–9.

118   Ibid 969 (emphasis added).

119   Ibid 974.

and containment as a different medium (such as videotapes or videodiscs) was not an impediment to the claim.[120]

Another finding in the plaintiffs' favour was that the plaintiffs did not need to specify works used in training as they 'plausibly [alleged] that the Midjourney product produces images – when their own names are used as prompts – that are similar to plaintiffs' artistic works'.[121] Implicit in these findings is a concern regarding substitution for the plaintiffs' works through outputs, even if the level of resemblance between training inputs and outputs was unlikely to meet the 'substantial similarity' threshold.

Litigation against Stability AI may be contrasted with China's first case on infringing outputs, which was handed down promptly, just over a month from filing.[122] A key difference, however, was that the outputs in this instance exhibited striking similarities with a known character, therefore involving more than stylistic imitation. The plaintiff, Shanghai Xinchuanghua Cultural Development Company Limited, was the exclusive licensee of the Ultraman animated character in China.[123] Originating in Japan, the superhero has had global appeal and popularity.[124] The unnamed AI company operated a website that provided an AI drawing function, exclusive to members.[125] While the defendant platform provided this image generation service to members, the service was implemented by a third-party service provider.[126]

The Court outlined the main features of the Ultraman works, including the 'symmetrical diamond-shaped fin-like bulge in the middle of the forehead' and huge, egg-shaped eyes that 'protrude outward'.[127] Provided in a comparison table in the decision was an example representation of the plaintiff's work (top row of Figure 2) and screenshots of images generated by the defendant's service (second and third rows of Figure 2, as examples).

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120   Ibid.

121   Ibid 976–7.

122   «上海新創華文化發展有限公司与AI公司（名化）» [Shanghai Xinchuanghua Cultural Development Co Ltd v AI Co (pseudonym)], 广州互联网法院 [Guangzhou Internet Court, People's Republic of China], 粤0192民初113号 [Guangdong 0192 Civil No 113], 2024年2月8日 [8 February 2024] ('*Xinchuanghua v AI Co*'). The case was filed on 5 January 2024 and the judgment was dated 8 February 2024. See also Marianna Foerg, '"Awaken, the Warrior of Light" What Lessons Can We Learn from Ultraman?', *Kluwer Copyright Blog* (Blog Post, 5 September 2024) <https://copyrightblog.kluweriplaw.com/2024/09/05/awaken-the-warrior-of-light-what-lessons-can-we-learn-from-ultraman/>.

123   *Xinchuanghua v AI Co* (n 122) 1 (审判员田) [(Tian J)] [tr Yichen Zhang et al, 'Liability of an AI Service Provider for Copyright Infringement' (2024) 73(11) *GRUR International* 1100, 1100 <https://doi.org/10.1093/grurint/ikae102>] ('*Xinchuanghua v AI Co* Translated').

124   *Xinchuanghua v AI Co* Translated (n 123) 1100.

125   Ibid 1100–1.

126   Ibid 1101.

127   Ibid 1103.

Figure 2: Comparison of Ultraman character with defendant's service outputs[128]

Upon comparison, the Court held that the 'pictures generated during the service process are highly similar to the Ultraman image involved in the case in several key features, thus constituting substantial similarity'.[129] Therefore, the plaintiff's reproduction right and adaptation right were infringed.[130]

Despite this being a clear instance of copyright infringement, the orders of the Court departed from those sought by the plaintiff, in accordance with the

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128 *Xinchuanghua v AI Co* (n 122).
129 *Xinchuanghua v AI Co* Translated (n 123) 1104.
130 Ibid 1106. Note that the Court held it would not repeat an evaluation of infringement of the information network dissemination right (China's equivalent of the right to communicate to the public), as the determination would not have a substantive impact given infringement had occurred.

regulatory framework set up by China's *Interim Measures for the Administration of Generative Artificial Intelligence Services*, which had taken effect on 15 August 2023 ('*Interim Measures*').[131] The measures emphasise a duty of reasonable care when providing GenAI services, including provision of a complaint reporting mechanism, and transparency obligations such as providing users with warnings of potential copyright infringement.[132] The defendant's 'subjective fault' in not fulfilling the obligations gave rise to liability under the *Interim Measures*.[133] In terms of injunctions, the order sought by the plaintiff to remove Ultraman materials from the training dataset was not granted. However, the defendant was required to cease generating Ultraman images using keyword filtering, which ought to prevent substantially similar images from being generated 'under normal circumstances'.[134] Furthermore, the monetary remedy of CNY 10,000, was much lower than the requested CNY 300,000.[135]

In issuing these orders, the Court emphasised that 'AI is a strategic technology that will lead the future and is the core driving force for a new round of scientific and technological revolution and industrial transformation'.[136] The Court went on to consider that, in light of the early stages of the GenAI industry's development, 'it is necessary to take both rights protection and industry development into account, and it is not appropriate to unduly increase the obligations of service providers'.[137] The orders reflect a reluctance to hinder the development of AI technologies, but raise risks of tipping the balance too far in favour of AI companies.

C Music

Litigation has also emerged over the use of sound recordings to train GenAI models, two examples being US cases brought by UMG Recordings ('UMG') against the proprietors of GenAI music services Suno and Udio.[138] As the plaintiffs in these cases were the copyright owners of the sound recordings, and not the underlying compositions, they could not claim that outputs similar to the underlying musical works were an infringement of their reproduction rights.[139] As a result, the plaintiffs limited their claims of infringement to the copying of recordings as inputs

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131   «生成式人工智能服务管理暂行办法» [Interim Measures for the Administration of Generative Artificial Intelligence Services] (People's Republic of China) Cyberspace Administration of China, National Development and Reform Commission, Ministry of Education, Ministry of Science and Technology, Ministry of Industry and Information Technology, Ministry of Public Security, National Radio and Television Administration, Order No 15, 10 July 2023.

132   *Xinchuanghua v AI Co* Translated (n 123) 1106–7.

133   Ibid 1107. This fault-based regulatory approach may be contrasted with a strict liability standard ordinarily applied to primary infringement under a proprietary approach: see Foong, 'AI and Right to Communicate' (n 9) 82–3.

134   *Xinchuanghua v AI Co* Translated (n 123) 1106.

135   Ibid 1100, 1108.

136   Ibid 1108.

137   Ibid 1108.

138   *UMG v Suno* Complaint (n 82); *UMG v Uncharted* Complaint (n 81).

139   See, eg, *UMG v Uncharted* Complaint (n 82) 16 [51]; Uncharted Labs Inc, 'Answer of Defendant Uncharted Labs, Inc. to Complaint', Answer to Complaint in *UMG Recordings Inc v Uncharted Labs Inc,* (SD NY, No 1:24-cv–04777, 1 August 2024) 5–8.

for the machine learning process. Allegations of significant similarities between outputs and UMG's sound recordings were put forward only as evidence that its works were used as inputs.[140] For example, prompting Udio with 'my tempting 1964 girl smokey sing hitsville soul pop' and lyric excerpts from 'My Girl' by The Temptations led Udio to produce a music file melodically and vocally similar to the original song, the recording of which was owned by UMG.[141] Given such similar outputs, UMG claimed that both Udio and Suno utilised 'overfitted' AI models (ie, where instead of learning generalisable patterns to apply to prompts of new or unseen data, memorisation occurs because the model is too closely adapted to the training dataset).[142] Similar to litigation involving other media, a concern raised was that the AI-generated recordings would directly compete with copyrighted recordings by 'overrunning the market with AI-generated music' substitutes for human-created works that neither credit nor compensate the rightsholders.[143] Again in line with other GenAI litigation, the defendants in these cases have raised fair use to excuse the large-scale copying of sound recordings as 'transformative'.[144]

IV SIMILARITY AND SUBSTITUTABILITY OF EXPRESSION

The GenAI copyright infringement disputes discussed exhibit varying degrees of similarity between generated outputs and the original works used as training inputs. This variability is dependent on how GenAI models are trained and the specificity and order of prompts entered.[145] It raises doctrinal considerations ranging from what is protected by copyright in the first place (expression) to the question of what an infringing reproduction is (including the relevant similarity standard and exceptions such as fair use).

Fair use, as we know, is not applicable universally and does not exist in Australia.[146] In any case, the core question before one needs to resort to exceptions is whether copyright expression is being reproduced in outputs. Therefore, a starting point is to understand the meaning of 'objective similarity' and causal connection in Australia and 'substantial similarity' in the US. Importantly, these similarity tests encapsulate the fundamental idea/expression dichotomy which lies at the heart of copyright law, before any exceptions come into play.

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140 *UMG v Uncharted* Complaint (n 80) 5 [11], 13 [45], 16 [53]; *UMG v Suno* Complaint (n 80) 16 [52], [54].
141 *UMG v Uncharted* Complaint (n 80) 17 [55].
142 *UMG v Suno* Complaint (n 80) 13 [45]; *UMG v Uncharted* Complaint (n 80) 13 [45]; See also Runqi Lin et al (n 30).
143 *UMG v Suno* Complaint (n 80) 5 [12]; *UMG v Uncharted* Complaint (n 80) 5 [12].
144 *UMG v Uncharted* Complaint (n 80) 4 [10], 30 [75]; *UMG v Suno* Complaint (n 80) 4–5 [10], 25 [68].
145 As Cooper and Grimmelmann observe, GenAI companies tend to emphasise user prompts to shift the responsibility for outputs to users, and away from their design choices: Cooper and Grimmelmann (n 17) 145, 169–70.
146 This is despite recommendations that Australia implement a fair use exception: see, eg, Australian Government Productivity Commission, *Intellectual Property Arrangements* (Inquiry Report No 78, 23 September 2016) 9.

At this stage, copyright owners are pursuing actions against the proprietors of GenAI tools, not individual users. These include those responsible for the machine learning process, or who have deployed the GenAI tools and made them accessible by the public. Whether they are liable for copyright infringement (if any) in regard to outputs generated by users could turn on principles of secondary liability that could subject such proprietors to primary infringement, which is beyond the focus of this article.[147] For our purposes here of identifying and analysing the fundamental basis for infringement of copyright, it is sufficient to recognise that GenAI proprietors are currently the more attractive and feasible copyright defendants.[148] Regardless of whether attribution of liability is based on primary or secondary principles of liability, proof of copying of expression still lies at the foundation of any action for infringement.

A   Copyright Doctrinal Challenges

Infringement of copyright requires that there be a taking of copyright expression. This expression need not be identical to that of the plaintiff's work, though a degree of similarity is required. Standards of similarity are stated and applied differently in Australia and the US, but some common elements are observable across the jurisdictions. First, there must be a sufficient *degree of similarity*. In the US, this is termed 'substantial similarity' and its assessment can, at times unhelpfully, be further divided into different prongs and tests.[149] The Australian counterpart to this convoluted US law on similarity is the requirement of 'objective similarity' and, to an extent, 'substantial part'.[150] Second, a *threshold of causality* linking the plaintiff's original work to the GenAI output must be met. In the US this would be considered with reference to the notion of 'access' or actual copying; in Australia this is termed

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147   In the context of automated communications to the public and the selection of works using algorithmic tools, this author has considered US primary infringement doctrines such as volition and secondary principles of vicarious liability: Foong, 'AI and Right to Communicate' (n 9). While these arguments were raised in a different context, should there be sufficient similarity to give rise to primary infringement, it seems likely that an array of doctrines and principles of liability could be used to attribute responsibility for copyright infringement to GenAI proprietors, given it has oversight and control over the use of these GenAI tools. Furthermore, this discussion would take us well beyond the bounds of this article, as it has been recognised that '*copyright concerns cannot be localized* to a single link in the [GenAI] supply chain' and it is not possible to identify blanket rules for determining who the relevant infringers are: Lee, Cooper and Grimmelmann (n 10) 57–8 (emphasis in original).

148   One may compare litigation against John Doe users of peer-to-peer software with the more successful strategy of actions against proprietors who may have induced or authorised copyright infringement by its users: see eg, *MGM v Grokster* (n 106); *Universal Music Australia Pty Ltd v Sharman License Holdings Ltd* (2005) 222 FCR 465.

149   This is discussed in Part IV(A)(2).

150   The Australian Copyright Act provides that infringement of a work includes acts done in relation to the whole or to a substantial part of the work: *Copyright Act 1968* (Cth) s 14. Objective similarity considers whether the alleged infringing work is similar to the copyright work, assessed as an objective question of fact based on perception and to some extent expert evidence: *EMI Songs Australia Pty Ltd v Larrikin Music Publishing Pty Ltd* (2011) 191 FCR 444, 456–7 (Emmett J), citing *Francis Day & Hunter Ltd v Bron* [1963] Ch 587, 618 (Upjohn LJ).

'causal connection'.[151] This second requirement excludes third-party independent creations that happen to be similar to the plaintiff's work from liability.[152]

Underlying these tests is a concern that the defendant's work is a substitute for and therefore usurps the market that is targeted or occupied by the plaintiff's work. However, as will be discussed, this is present more explicitly in US doctrinal analysis and case law.[153]

1 Australian Law

Australian case law states that there must be 'a sufficient degree of objective similarity' between the copyright work and potentially infringing work,[154] but there is limited guidance on how this is to be assessed. As lamented by an Australian Federal Court judge, the issue of sufficient objective similarity is a 'well known, if often difficult, distinction between ideas or concepts on the one hand and the form of expression or manifestation of them on the other'.[155] In the context of project home designs, the Full Federal Court in *Tamawood Ltd v Habitare Developments Pty Ltd* has asked: 'can the copyright drawing still be seen embedded in the impugned drawing or, put another way: has the impugned drawing adopted the essential features and substance of the copyright work?'[156] However, the Court

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151 *SW Hart & Co Pty Ltd v Edwards Hot Water Systems* (1985) 159 CLR 466, 472, quoting *Francis Day & Hunter Ltd v Bron* [1963] Ch 587, 614 (Willmer LJ) ('*Francis Day v Bron*'); Amy B Cohen, 'Masking Copyright Decisionmaking: The Meaninglessness of Substantial Similarity' (1987) 20(4) *UC Davis Law Review* 719, 728–9, citing *Simonton v Gordon*, 12 F 2d 116 (SD NY, 1925) (the first US case requiring access).

152 The interrelated nature of the two elements should be noted. A high degree of similarity could lead to an inference of causality, given the latter may be difficult to prove: see, eg, *Arnstein v Porter*, 154 F 2d 464, 468–9 (Frank J) (2nd Cir, 1946) ('*Arnstein*'); *Clarendon Homes (Aust) Pty Ltd v Henley Arch Pty Ltd* (1999) 46 IPR 309, 316 [27] (Heerey, Sundberg and Finkelstein JJ). See also *Tamawood Ltd v Habitare Developments Pty Ltd* (2015) 112 IPR 439, 476 [167] (Jagot and Murphy JJ) ('*Tamawood*').

153 The focus of discussion here will be on the level of similarity required, as this is likely to be the more contentious issue in the GenAI context. Causality is largely shown by the recognisability of the inputs in the outputs, which suggests that the level of similarity remains the key determinant in assessing copyright liability for outputs. Some scholars have nevertheless questioned whether the causal requirement can be met with outputs: see, eg, Jane C Ginsburg, 'Fair Use in the US Redux: Reformed or Still Deformed?' [2024] *Singapore Journal of Legal Studies* 52, 83 ('Fair Use Redux') ('In the case of training data, there is upstream copying, but it may not be possible to show that the output in fact incorporated the copied work.'); Justine Magowan, '"It's Like I've Got This Music in My Mind": Protecting Human Authorship in the Age of Generative Artificial Intelligence' (2023) 75(1) *UC Law Journal* 233, 257, quoting *Skidmore v Led Zeppelin*, 952 F 3d 1051, 1069 (McKeown J) (9th Cir, 2020) ('while access can be considered "as circumstantial evidence of actual copying," … proof of access cannot be used to subsume a showing of actual copying').

154 *Francis Day v Bron* (n 151) 614 (Willmer LJ).

155 *Eagle Homes Pty Ltd v Austec Homes Pty Ltd* (1999) 87 FCR 415, 436–7 [95] (Lindgren J). Another relevant statement by the High Court of Australia is that '[c]opyright is infringed by copying or reproducing the document; it is not infringed by publishing information or ideas contained in the document so long as the publication does not reproduce the form of the literary work': *Commonwealth v John Fairfax & Sons Ltd* (1980) 147 CLR 39, 58 (Mason J).

156 *Tamawood* (n 152) 450 [33] (Greenwood J).

cautioned that it is not enough to 'see the ideas contained within the copyright work in the infringing work'.[157]

The objective similarity test and substantial part requirement both incorporate the idea/expression dichotomy in instances of non-identical copying.[158] In regard to the latter, courts have held that the more unoriginal the work, the greater the degree of taking required to satisfy substantial part.[159] It is therefore a qualitative assessment of the alleged copying with reference to the degree of originality of the plaintiff's work.[160] In the Australian context, the comparison is confined to the parts taken from the plaintiff's work and the part that is used in the defendant's work, which is more compartmentalised than US approaches to assessing similarity.[161] A seminal Australian case that illustrates the limitation of this approach is *EMI Songs Australia Pty Ltd v Larrikin Music Publishing Pty Ltd*,[162] also known as the *Kookaburra* case, as it involved an iconic Australian nursery rhyme about a Kookaburra bird that is sung in a round.[163] A short two-bar melody was drawn from the relatively simple work and integrated into a significantly more complex song as a flute riff flourish, and this was held to be an infringing reproduction by the Full Federal Court of Australia.[164]

As will be discussed, US copyright law permits consideration of output substitution, though this is heavily dependent on fair use and, to some extent, the

157   Ibid 451 [41] stated in full: 'the notion that the copyright work can "be seen" in the contended infringing work or that one can look through the infringing work, like a milky window, and see the copyright work in the contended infringing work, might simply mean that one can see the ideas contained within the copyright work in the infringing work. There is nothing unlawful in using the ideas in one work as the foundation for the expression of one's own work expressed by reason of the work, skill, effort and judgment of the author of the contended infringing work.'

158   For explanations of originality in the context of the substantial part requirement in Australian case law, see, eg, *Data Access Corporation v Powerflex Services Pty Ltd* (1999) 202 CLR 1, 32 [83] (Gleeson CJ, McHugh, Gummow and Hayne JJ); *IceTV Pty Ltd v Nine Network Australia Pty Ltd* (2009) 239 CLR 458, 473–7 [30]–[44] (French CJ, Crennan and Kiefel JJ) ('*IceTV*'); *Blackie & Sons Ltd v The Lothian Book Publishing Co Pty Ltd* (1921) 29 CLR 396, 404 (Starke J).

159   *IceTV* (n 158) 476 [40] (French CJ, Crennan and Kiefel JJ), citing Kevin Garnett, Gillian Davies and Gwilym Harbottle (eds), *Copinger and Skone James on Copyright* (Sweet & Maxwell, 15th ed, 2005) vol 1, 385 [7-27(d)].

160   *Autodesk Inc v Dyason [No 2]* (1993) 176 CLR 300, 305 (Mason CJ), quoting *Ladbroke (Football) Ltd v William Hill (Football) Ltd* [1964] 1 All ER 465, 481 (Lord Pearce) ('*Ladbroke*'); *Pacific Gaming Pty Ltd v Aristocrat Leisure Industries Pty Ltd* (2001) 116 FCR 448, 453 [17] (Sackville, Finn, and Kenny JJ), quoting *Ladbroke* (n 160) 469 (Lord Reid); *IceTV* (n 158) 473 [30] (French CJ, Crennan and Kiefel JJ), 512 [170] (Gummow, Hayne and Heydon JJ).

161   *EMI Songs Australia Pty Ltd v Larrikin Music Publishing Pty Ltd* (2011) 191 FCR 444, 464 [82] (Emmett J), 493–4 [196]–[199] (Jagot J) ('*EMI*'). It is worth noting that the case reignited calls to introduce an Australian fair use exception: Matthew Rimmer, 'An Elegy for Greg Ham: Copyright Law, the Kookaburra Case, and Remix Culture' (2012) 17(2) *Deakin Law Review* 385 <https://doi.org/10.21153/dlr2012vol17no2art85>.

162   *EMI* (n 161).

163   A round may be described as a musical composition 'with each voice beginning at different times so that different parts of the melody coincide in the different voices, but nevertheless fit harmoniously together': 'Round (Music)', *Wikipedia* (Web Page, 8 March 2025) <https://en.wikipedia.org/wiki/Round_(music)>, archived at <https://perma.cc/ST7D-F86G>, citing David Johnson, 'Round' (Article, *Grove Music Online*, 20 January 2001) <https://doi.org/10.1093/gmo/9781561592630.article.23960>.

164   *EMI* (n 161) 445.

element of substantial similarity.[165] In Australia, without a fair use or a text and data mining exception, copyright liability is likely to arise for copying of copyright content in the input stages.[166] Even if the infringement analysis is focused on outputs, the scope for analysing substitutability under Australian copyright law is more limited than under US law as Australian courts do not compare the similarity of the works as a whole; comparison is confined to the part allegedly copied by the defendant. Therefore, infringement may be found even if the defendant's work as a whole appears different and is not a substitute for the plaintiff's work in the relevant market.[167] The Australian law, in focussing analysis of harm on the background copying in training datasets and processes of machine learning and with its compartmentalised analysis of what is copied, arguably does not address the broader substantive concern raised by GenAI, ie, substitution of original human-authored works by GenAI outputs.

2 US Law

Infringement of the reproduction right under US law requires proof of 'improper appropriation' by demonstrating 'substantial similarity' between the two works.[168] Improper appropriation was made explicit as a key requirement of infringement by the US Court of Appeals for the Second Circuit in 1946 in *Arnstein v Porter*.[169] Approaches across US Circuits vary, as the US Supreme Court has yet to rule on substantial similarity,[170] though the *Arnstein* test is still the longest-standing.[171] Again, the two key elements are (1) actual copying or access and (2) assuming there has been access, whether the defendant misappropriated enough of the plaintiff's work to 'justify liability'.[172] It is worth noting that an additional layer to an analysis of copyright infringement in the US is, of course, fair use. A criticism

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165 This will be discussed next in Part IV(A)(2).
166 To date, there are no litigated cases on GenAI copyright infringement in Australian courts.
167 See, eg, *EMI* (n 161).
168 *Arnstein* (n 152) 468–9 (Frank J). See also Magowan (n 153) 251.
169 Note that *Arnstein* (n 152) also established the longstanding use of jury trials to determine questions of substantial similarity in the US, which has arguably led to the convoluted tests discussed in this section and has been criticised by scholars: Jason Palmer, '"Blurred Lines" Means Changing Focus: Juries Composed of Musical Artists Should Decide Music Copyright Infringement Cases, Not Lay Juries' (2016) 18(4) *Vanderbilt Journal of Entertainment and Technology Law* 907; Shyamkrishna Balganesh, 'The Questionable Origins of the Copyright Infringement Analysis' (2016) 68(4) *Stanford Law Review* 791 ('Questionable Origins'). However, there are instances where substantial similarity has been dealt with by judges at the pleading stage: see, eg, *Piuggi v Good for You Productions LLC*, 739 F Supp 3d 143, 162 (Marrero J) (SD NY, 2024).
170 Sandra M Aistars, 'Copyright's Lost Art of Substantial Similarity' (2023) 26(1) *Vanderbilt Journal of Entertainment and Technology Law* 109, 125. These tests often overlap and arguably cause more confusion as alternative statements of similar tests. As Aistars explains (at 128–9), courts have generally applied one of three tests: the 'ordinary observer' test (concerned with the total concept and feel), the 'extrinsic/intrinsic' test (considering if there are extrinsic similarities in ideas), or the 'abstraction/ filtration/comparison' test (crafted by the Second Circuit to analyse computer software). See also Cohen (n 151) 753–7 for an explanation of the extrinsic-intrinsic test.
171 Aistars (n 170) 129, citing Daryl Lim, 'Saving Substantial Similarity' (2021) 73 *Florida Law Review* 591, 603.
172 Cohen (n 151) 724.

of the 'improper appropriation' infringement standard is its substantial overlap with the fair use analysis, and scholars disagree on how this should be resolved.[173] A source of this overlap is the consideration of substitutability, which arises under the improper appropriation analysis and is also a feature in the fourth fair use factor and question of 'transformativeness'.[174]

US legal tests have in the past exhibited an explicit demand substitution analysis, asking whether the defendant's work is a substitute in the market for the plaintiff's work.[175] In other words, is there a degree of similarity such that a consumer would readily choose to obtain the defendant's work, thereby using it as a substitute for the plaintiff's work?[176] In determining the relevant perspective, ie, the hypothetical person assessing similarity, US courts have fluctuated between a layperson and a member of the 'intended audience'.[177] The 'intended-audience' approach reflects the notion of copyright as a marketable right, as its underlying logic is that copying should be prevented 'only when it results in the creation of close substitutes that are in turn likely to divert demand away from the original'.[178]

Another approach applied by the Second Circuit is the 'total concept and feel' test, which considers similarity between the totalities of the competing works, not their relevant components.[179] The test asks if 'the ordinary, reasonable person would find the total concept and feel of the works to be substantially similar'.[180] The broad approach has allowed certain plaintiffs to bring successful copyright infringement actions for what may arguably be described as emulation of their style. A visual arts example is *Steinberg v Columbia Pictures Industries Inc*, where

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173   See Aistars (n 170); cf Cohen (n 151) 745–6, 760–1. Cohen calls for greater reliance on fair use while Aistars suggests moving away from fair use and undertaking a clearer substantial similarity analysis to determine prima facie infringement. On the centrality of 'substantial similarity' in copyright, see also Balganesh, 'Questionable Origins' (n 169).

174   The fourth factor considers 'the effect of the use upon the potential market for or value of the copyrighted work': *Copyright Act of 1976*, 17 USC § 107 (1976). The more transformative a defendant's work is, the less likely it will be seen as a substitute: see, eg, *Campbell v Acuff-Rose* (n 40) 579 (Souter J for the Court).

175   This is arguably a historical approach that has been superseded. It has been observed that rather than asking if the later work is a duplicate of the original's appeal, courts now tend to ask if the relevant target audience would recognise an element of the work as being too similar to the earlier work's expression: Lunney Jr (n 60) 545. This emphasis on recognisability perhaps aligns with the use of jury trials to resolve the question of substantial similarity in the US.

176   It should be noted that there is scholarly support for explicitly taking market substitution into account in assessing similarity under the reproduction right: see Jeanne C Fromer and Mark A Lemley, 'The Audience in Intellectual Property Infringement' (2014) 112(7) *Michigan Law Review* 1251.

177   Shyamkrishna Balganesh, 'The Normativity of Copying in Copyright Law,' (2012) 62(2) *Duke Law Journal* 203, 219.

178   Ibid, citing Michael Der Manuelian, 'The Role of the Expert Witness in Music Copyright Infringement Cases' (1988) 57(1) *Fordham Law Review* 127, 144–5; *Dawson v Hinshaw Music Inc*, 905 F 2d 731, 733–4 (Murnaghan J for the Court) (4th Cir, 1990) ('In light of the copyright law's purpose of protecting a creator's market, we think it sensible … that the ultimate comparison of the works at issue be oriented towards the works' intended audience.') In *Dawson v Hinshaw Music Inc*, the intended audience for spiritual musical arrangements was considered choral directors with specialised expertise on discerning between such arrangements.

179   Sobel (n 80) 100.

180   *Williams v Gaye*, 895 F 3d 1106, 1119 (Smith J) (9th Cir, 2018) ('*Williams*'), quoting *Pasillas v McDonald's Corporation*, 927 F 2d 440, 442 (Fletcher J for the Court) (9th Cir, 1991).

a movie poster's emulation of a New Yorker magazine cover depicting a centred vantage point of a Manhattan street and surrounds, from a particular height, was held to be copyright infringement.[181] Such broad approaches are also found in the Ninth Circuit, which has its version of a total concept and feel test.[182] A high-profile example is the *Williams v Gaye* case involving the song 'Blurred Lines' that was held to have infringed Marvin Gaye's 'Got to Give It Up', despite the dissimilarities in melody, lyrics and rhythm.[183]

However, as Benjamin Sobel rightly cautions, the labelling of what is taken as 'style' does not necessarily assist with answering the question of liability.[184] The question comes back to whether a substantial degree of original *expression* has been taken by the defendant from the plaintiff's work. The Second Circuit decision of *Hoehling v Universal City Studios Inc* highlights this requirement.[185] In that case, 'copying' of standard incidents and stock scenes such as representations of German beer halls, greetings of 'Heil Hitler' and the singing of the German national anthem was indispensable to a film depicting the lead-up to the Hindenburg disaster, no matter how recognisable.[186] Likewise in the Ninth Circuit, the infringement claim in *Gray v Hudson* that Katy Perry had copied a two-note pitch descending musical sequence, also known as an ostinato pattern, did not satisfy substantial similarity as this would lead to a monopoly over a basic musical building block.[187] Therefore, whether the similarity assessment is based on impression of both works or compartmentalised to what is taken by the defendant as in Australia, the protection of expression should remain the focus of analysis.[188]

B Protecting Original Expression in Works of Authorship

The similarity assessment is inevitably challenging, as it raises the question of how much expression is taken, in a qualitative sense. However, the line between unprotected ideas and copyright expression is inherently ambiguous, as ideas are encapsulated or embodied within expression. The similarity assessment goes to the core of what is protected by copyright – the original 'work' of authorship as

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181 *Steinberg v Columbia Pictures Industries Inc*, 663 F Supp 706 (SD NY, 1987). Sobel argues that '[w]hile the court did also cite similarities in content rather than representational style – eg, "[b]oth illustrations represent a bird's eye view across the edge of Manhattan and a river bordering New York City to the world beyond" – it was "the striking stylistic relationship between the posters," and its constitutive elements that was the court's focus': Sobel (n 80) 83.

182 Note that the Ninth Circuit Court's consideration of concept and feel is part of the 'intrinsic' test, which 'depend[s] on the response of the ordinary reasonable person': Sobel (n 80) 78, quoting *Sid & Marty Krofft Television Productions Inc v McDonald's Corporation*, 562 F 2d 1157, 1164 (Carter J) (9th Cir, 1977). See also *Antonick v Electronic Arts Inc*, 841 F 3d 1062, 1065–6 (Hurwitz J) (9th Cir, 2016).

183 *Williams* (n 180). See further Joseph P Fishman, 'Music as a Matter of Law' (2018) 131(7) *Harvard Law Review* 1861, 1864.

184 Sobel (n 80) 53–4. Sobel argues that 'style' has a broad meaning that could encompass generic attributes of works but also more particularised expression.

185 618 F 2d 972 (2nd Cir, 1980).

186 Ibid 979 (Kaufman CJ).

187 28 F 4th 87, 102 (Smith J) (9th Cir, 2022).

188 Note that scholars have observed an erosion of the improper appropriation threshold, thus increasing the likelihood of success of an infringement claim as is observable in *Williams* (n 180): Palmer (n 169); Balganesh, 'Questionable Origins' (n 169), see especially 855–7.

expressed.[189] These issues are difficult enough to address on a case-by-case basis in a conventional context. GenAI further complicates this because it is equipped to produce countless iterations that approximate a creator's unique expressive elements, without reproducing a particular work. The idea/expression dichotomy and doctrinal focus on the 'work' as a starting point thus present challenges for copyright law restrictions on GenAI outputs, even if such outputs could be market substitutes for authored works.

Do we dismantle these cornerstones of copyright law to stem the tide of substitutive GenAI outputs? As Alexandra George has cautioned, '[w]hile the territory demarcated by this process [of identifying the work] is imaginary, its legal application and enforcement can have very real and significant social and economic consequences'.[190] It is important that this is not forgotten in the GenAI age. The problem caused by substitutable, though not necessarily objectively or substantially similar, GenAI outputs requires a targeted solution. Lawmakers and judges should not shoehorn copyright's fundamental principles to fit the challenges posed by GenAI. This overreach of copyright to protect style grants copyright owners control not just over GenAI models but human authorship, and the prospect of impeding the latter is real and significant.

V LOOKING BEYOND COPYRIGHT LAW

In the GenAI context, a range of outputs could be generated depending on the machine learning process, the system design and implementation, and the kind of prompting. We may visualise the degree of copying from inputs present in outputs and the intersection with copyright infringement using a Venn diagram (Figure 3 below).

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189   A potential argument is that style should be protected through an aggregation of works (or by recognising the originality of an aggregation of works) rather than limiting the assessment to a single work of the plaintiff. More specifically, the argument is that the concept of a 'work' is malleable under US law, and that in response to GenAI, it is possible to protect elements of style through broader interpretation of the work: Sobel (n 80) 87–94. Such arguments draw support from case law protecting copyright in fictional characters. However, this takes unique solutions developed in particular instances involving fictional characters and inappropriately expands it to all copyright works in order to address the threat of GenAI outputs to human authorship.

190   Alexandra George, 'The Metaphysics of Intellectual Property' (2015) 7(1) *WIPO Journal* 16, 20, quoted in Jani McCutcheon, '*Shazam v Only Fools and Horses*: A Critique of the Classification of Literary or Dramatic Characters as Independent Copyright Works' (2024) 87(2) *Modern Law Review* 448, 464 <https://doi.org/10.1111/1468-2230.12833>. See also Jani McCutcheon's reminder that '[c]lear identification of the work is essential for delineating the boundaries of the copyright monopoly and determining whether that monopoly exists at all': at 464. McCutcheon critiques attempts to look beyond the work to ensure copyright protection for literary characters in the UK.

Key (where part of GenAI output):

■ Copyright infringing, if in GenAI output

▨ Not copyright infringing, as no replication of expression

■ Not infringing as merely incorporating facts/information

GenAI outputs

Abstractions of
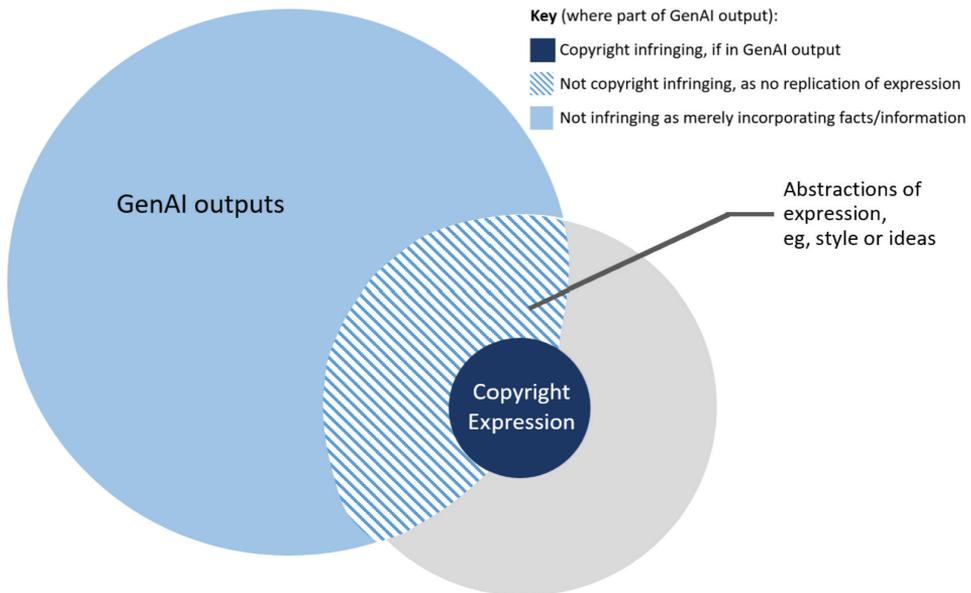expression,
eg, style or ideas

Copyright
Expression

Figure 3: Intersection of GenAI outputs and copyright content

At the core is copyright expression, the copying of which would lead to copyright infringement. Whether in GenAI or other contexts, the copying of copyright expression as already discussed is key to an infringement action. Copyright law will continue to apply where there is a copying of expression, but challenges arise where GenAI outputs are not considered copies of specific works, but nevertheless generate expression that is a substitute for creative styles or recognisable characters. This is the penumbra of abstract styles and ideas that may be utilised in but do not precisely constitute copyright expression, an area indicated by diagonal lines. This is the area that requires sui generis AI regulation, rather than expanding copyright property protection to this area.

Copyright law alone is insufficient to address the broader capabilities of GenAI systems. A regulatory framework specific to GenAI models and informed by unfair competition principles would be better equipped to regulate the conduct and design choices of GenAI proprietors that enable such outputs.[191] This is not to say that we apply the existing unfair competition laws to the problem at hand. As will be discussed, attempts to use unfair competition to fill in spaces unprotected by intellectual property in litigation have so far been unsuccessful. Courts have generally deferred to statutory property rights and refrained from creating uncertainty via this common law tort. The key elements or principles of unfair competition nevertheless could provide a basis for constructing GenAI regulation that targets the concerns raised under copyright claims.

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191   As scholars have pointed out, design choices matter: Lee, Cooper and Grimmelmann (n 10) 58.

A Unfair Competition Law in the US and Australia

Unfair competition has not had a substantive presence in Australia, as courts have considered it to be 'inconsistent with the established limits of the traditional and statutory causes of action' already available to a trader for 'damage caused or threatened by a competitor'.[192] Therefore, it has been rejected by Australian courts which have refused to protect 'all the intangible elements of value' that may flow from human 'ingenuity, knowledge, skill or labour'.[193]

To the extent that unfair competition law has had any traction in Australia, it has been seen as an extension of the doctrine of passing off, requiring an element of inequitable or underhanded conduct.[194] Nevertheless, attempts to extend the law of passing off through the notion of unfair competition have raised concerns that such a law could end up being anti-competitive as what one calls 'unfair' another may call 'fair', as the market involves many parties with different perspectives.[195] More disparagingly, it has been described as 'judicial indulgence of idiosyncratic notions of what is fair in the market place'.[196] Therefore, in Australia there is limited prospect of reviving unfair competition law as a common law action to address the copyright-related concerns raised by GenAI outputs.

Unfair competition law has fared slightly better in the US, though similar concerns about uncertain scope have been raised and the doctrine of pre-emption has severely limited its application. Unfair competition has tracked a convoluted path through the US legal framework. In 1918, the US Supreme Court in *International News Service v Associated Press* is said to have established a general 'unfair competition' cause of action.[197] With origins in tort, the action sought to remedy the defendant's 'special advantage' in competition as 'an unauthorized interference with the normal operation of complainant's legitimate business precisely at the point where the profit is to be reaped, in order to divert a material portion of the profit from those who have earned it to those who have not'.[198] However, federal common law for business practices and

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192 *Moorgate Tobacco Co Ltd v Philip Morris Ltd [No 2]* (1984) 156 CLR 414, 445 (Deane J) ('*Moorgate [No 2]*'). See also *Victoria Park Racing and Recreation Grounds Co Ltd v Taylor* (1937) 58 CLR 479, 509 (Dixon J): 'it is not because the individual has by his efforts put himself in a position to obtain value for what he can give that his right to give it becomes protected by law and so assumes the exclusiveness of property, but because the intangible or incorporeal right he claims falls within a recognised category to which legal or equitable protection attaches'.

193 Huw Beverley-Smith, Ansgar Ohly and Agnès Lucas-Schloetter, 'Property, Personality and Unfair Competition in England and Wales, Australia and Canada' in *Privacy, Property and Personality: Civil Law Perspectives on Commercial Appropriation* (Cambridge University Press, 2005) 13, 13 <https://doi.org/10.1017/CBO9780511495243>, quoting *Moorgate [No 2]* (n 192) 444–5 (Deane J). As the authors indicate, this position is shared by UK courts.

194 *Hexagon Pty Ltd v Australian Broadcasting Commission* (1975) 7 ALR 233, 249–52 (Needham J).

195 *L'Oréal SA v Bellure NV* (2007) 73 IPR 629, 663 [139] (Jacob LJ).

196 *Moorgate [No 2]* (n 192) 446 (Deane J).

197 *International News Service v The Associated Press*, 248 US 215 (1918). The case involved protection of 'hot news' reporting from the front lines of World War I, that were conducted by two competing news services. Despite information not protected separately as a form of intellectual property, the court recognised a quasi-property right in the news skill and labour invested and the economic value of the news: at 236 (Pitney J for the Court). Note that Holmes and Brandeis JJ in dissent challenged this recognition of 'quasi-property': at 246 (Holmes J), 251 (Brandeis J).

198 *Moorgate [No 2]* (n 192) 440 (Deane J), quoting ibid 240 (Pitney J for the Court).

torts was abolished by the Supreme Court in 1938, and as a result has been described as 'a derelict of the federal common law'.[199]

Nevertheless, state-level unfair competition laws still co-exist with federal IP statutes. Under the law of California, the common law tort of misappropriation, as an unfair competition action, requires three elements: (1) a plaintiff 'invested substantial time and money' in developing a property, (2) the defendant appropriated the property at little or no cost and (3) the plaintiff was injured by the defendant's conduct.[200] The second element characterises the defendant's actions as 'reaping where it has not sown'.[201] Three similar elements are found in Texas case law, with the second element described as 'the defendant's use of [the plaintiff's] product in competition with the plaintiff, thereby gaining a special advantage in that competition (ie, a "free ride") because defendant [sic] is burdened with little or none of the expense incurred by the plaintiff'.[202]

However, the US doctrine of pre-emption presents a major impediment to the application of state unfair competition law to spaces already occupied by federal statutory intellectual property protection. Claims of misappropriation and unfair competition would be pre-empted if 'equivalent to the exclusive rights within the general scope of copyright'.[203] One approach, adopted in the state of Pennsylvania, is to ask if state law causes of action incorporate elements beyond those necessary to prove copyright infringement, and 'regulate conduct qualitatively different from the conduct governed by copyright law', in which case it would not be pre-empted.[204] However, the mere requirement to show 'bad faith' has not been considered an 'extra element' that overcomes the pre-emption doctrine, under New York unfair competition law.[205] Therefore, despite having a more substantive presence in the US, state unfair competition law has limited prospects of applying to protect owners' interests in instances where prima facie copyright infringement has been unsuccessful.[206]

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199 Paul Goldstein, 'Federal System Ordering of the Copyright Interest' (1969) 69(1) *Columbia Law Review* 49, 49 <https://doi.org/10.2307/1120873>, citing *Erie Railroad Co v Tompkins*, 304 US 64, 78 (1938), where Brandeis J (for the Court) held that federal courts had no constitutional power to declare substantive rules of common law applicable in a state.

200 *Lebas Fashion Imports of USA Inc v ITT Hartford Insurance Group*, 50 Cal App 4th 548, 564 (Croskey AsJ) (Ct App, 1996) ('*Lebas*').

201 Ibid 561.

202 *HCL Technologies Ltd v Atos SE* (ND Tex, No 3:23-CV-868-L, 31 January 2024) slip op 9 (Horan MJ) ('*HCL v Atos*'), quoting *Motion Medical Technologies LLC v Thermotek Inc*, 875 F 3d 765, 775 (Higginson J) (5th Cir, 2017). The other two elements are (i) the creation of plaintiff's product through extensive time, labour, skill and money, and (iii) commercial damage to the plaintiff.

203 *Erosion Prevention Products LLC v Pave/Lock/Plus II LLC* (SD Tex, Civ No 4:20-CV-03557, 22 November 2023) slip op 5 (Hanen J).

204 *Hian v Louis Vuitton USA Inc* (ED Pa, No 22-CV-03742, 28 June 2024) slip op 19 (Murphy J) quoting *Dun & Bradstreet Software Services Inc v Grace Consulting Inc*, 307 F 3d 197, 217 (Rosenn J for the Court) (3rd Cir, 2002).

205 *ID Tech LLC v Bayam Group Inc* (SD NY, No 19-CV-08439, 29 March 2023) slip op 10 (Figueredo MJ), citing *Genius Media Group Inc v Google LLC* (ED NY, No 19-CV-7279 (MKB), 10 August 2020) slip op 15 (Brodie J).

206 Note that plaintiffs in GenAI cases have nevertheless tacked on claims of unfair competition: see, eg, *Getty v Stability* Complaint (n 109) [100]; J Doe, 'Complaint: Class Action', Complaint in *Doe 1 v*

B Curbing Unfair Competition as a Justification for Regulation

The challenges of GenAI call for a targeted regulatory framework, rather than an enlargement of copyright proprietary protection or the common law of unfair competition. Rather than asking copyright law to do too much, a regulatory framework guided by unfair competition principles *could* provide a more sensible and practicable solution. It could seek to address more narrow concerns involving imitation and substitution in reputational value, without impinging on machine learning processes necessary for the functioning of such GenAI models. This specific regulation should be limited in application to GenAI tools and capabilities offered to members of the public. It should seek to recognise the value of inputs that are extracted by GenAI systems as a whole and then commercialised through the offering of GenAI tools and their outputs. Rather than consider the discrete steps of machine learning and content generation through a property infringement lens, this framework should holistically assess what the system enables the public to do, and how this affects authors, copyright owners and creative industries.

Infringement is an ex-post assessment of liability, considered on a case-by-case basis with limited guidance for designers of AI systems to rely upon.[207] This speaks to the limitations of a property infringement action, in contrast to regulations that target the system design that may be implemented, adopted and managed by GenAI companies. Defendants in GenAI litigation tend to focus on the back-end, that is the '*users*' role in selecting prompts and the resulting generations, rather than on the *companies*' role in designing a training process and the resulting model'.[208] Both the proprietor's system design and user prompts have a causal role in the generation of outputs. While it could be argued that both bear responsibility, regulation and laws are more likely to impact on the choices and actions of GenAI companies, and would be more effective than seeking to control the conduct of disparate users of GenAI. There are already calls for GenAI to be regulated for various reasons, such as to protect privacy, personality rights, deepfakes, ethical concerns and environmental impacts.[209] It has been recognised that a holistic regulatory approach 'with due attention to the interaction between

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Github Inc (ND Cal, No 4:22-CV-06823-KAW, 3 November 2022) [207]; Richard Kadrey, 'Complaint', Complaint in *Kadrey v Meta Platforms Inc* (ND Cal, No 3:23-CV-03417, 7 July 2023) [54]. In the *NYT v Microsoft* Decision (n 107), the unfair competition claim was dismissed as it was pre-empted by federal copyright law and it did not fit the narrow 'hot news' exception to preemption: at 322.

207 Ginsburg, 'Fair Use Redux' (n 153) 89. Cooper and Grimmelmann also remind us that while it is appealing to devise broad generalisations about copyright and generative AI, it is not possible to do so and '[a] rigorous analysis of copyright implications depends on the specific system': Cooper and Grimmelmann (n 17) 156.

208 Cooper and Grimmelmann (n 17) 176 (emphasis in original).

209 See, eg, Philipp Hacker, 'Sustainable AI Regulation' (2024) 61(2) *Common Market Law Review* 345 <https://doi.org/10.54648/cola2024025>.

the various legal domains' is important given the multitude of AI-applications,[210] and there is no reason why copyright-related concerns should be excluded.[211]

Notably, effective protection against unfair competition as an 'act of competition contrary to honest practices in industrial or commercial matters' is provided for in Art 10*bis* of the Paris Convention.[212] However, 'no specific guidance is found in Art 10bis *Paris Convention* concerning acts of misappropriation',[213] apart from references to creating confusion or false allegations (matters already protected under the law of passing off). Thus, unfair competition law may be described as a 'doctrinally inspiring [regime]' for bringing different areas of law into a coherent framework, but the precise scope and contours of that framework will still need to be worked out.[214] Stefan Scheuerer, who raises unfair competition as 'an underestimated building block of the AI regulation landscape', prompts us to consider unfair competition law as an alternative to new IP rights in instances where it is 'simply *unclear* whether there is an economic need for introducing such rights'.[215]

The purpose of this regulation is not to protect copyright interests in expression, which are already protected by copyright law. Such regulation should address perceived gaps, where the similarity of outputs when compared to inputs does not meet the copyright threshold for similarity.[216] Any compensatory requirements would not take the form of licensing for use of copyright expression, though they may nevertheless reflect recognition that these GenAI companies stand on the shoulders of innumerable human intellectual outputs, much of which are copyright

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210   Nathalie A Smuha, 'From a "Race to AI" to a "Race to AI Regulation"': Regulatory Competition for Artificial Intelligence' (2021) 13(1) *Law, Innovation and Technology* 57, 83 <https://doi.org/10.1080/17579961.2021.1898300>.

211   *Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 Laying Down Harmonised Rules on Artificial Intelligence and Amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Act)* [2024] OJ L is a prominent example of broad regulation of AI companies, though its effectiveness at addressing copyright concerns remains to be seen. Addressing copyright, article 53(1) ostensibly focuses on the intersection with the text and data mining exception in the Copyright in the Digital Single Market Directive of 2019 and has limited application to general-purpose AI model providers (and potentially none at all to AI upstream or downstream providers or deployers): João Pedro Quintais, 'Generative AI, Copyright and the AI Act' (2025) 56 *Computer Law and Security Review* 106107:1–17, 6–8, 10 <https://doi.org/10.1016/j.clsr.2025.106107>; *Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on Copyright and Related Rights in the Digital Single Market and Amending Directives 96/9/EC and 2001/29/EC* [2019] OJ L 130/92.

212   *Paris Convention for the Protection of Industrial Property*, opened for signature 14 July 1967, 828 UNTS 305 (entered into force 26 April 1970) art 10bis(2).

213   Kur, Lee and Tischner (n 53) 441.

214   Stefan Scheuerer, 'Artificial Intelligence and Unfair Competition – Unveiling an Underestimated Building Block of the AI Regulation Landscape' (2021) 70(9) *GRUR International* 834, 837–8 <https://doi.org/10.1093/grurint/ikab021>.

215   Ibid 842 (emphasis in original). Scheuerer argues that 'it seems wise to refrain from *hastily* and *prematurely* establishing new and potentially dysfunctional full IP rights'.

216   That is, instances unlike those alleged in the *NYT v Microsoft* Complaint (n 6) dispute where verbatim text could be generated or the music disputes involving 'overfitted' GenAI models – discussed in Part II(A) and Part III(A).

works. Framed in terms of unfair competition elements, such companies have achieved a competitive 'special advantage' at the expense of authors and copyright industries that have 'invested substantial time and money' in developing such works.[217] Injuries arise in a broad sense due to the proliferation of GenAI outputs that would not be possible without copyright owners' 'raw materials' as inputs to train these GenAI models.

The elements of unfair competition law raise a number of questions: is this granting protection or compensation that goes beyond copyright's core focus on protecting original expression justified? Is there some unfairness or misappropriation of investment in a market that needs to be remedied? These questions are likely to be satisfied where the plaintiff has built up a substantial body of work, thus evidencing the investment of effort and harm that arises through misappropriation of that investment. These questions should be answered in the affirmative before proceeding with implementing compensatory mechanisms.[218]

The regulation of GenAI companies should also pre-emptively prevent such harms. This includes the implementation of guardrails, such as prompt filters that inhibit searches for works in the style of named creators or representations of known characters or figures.[219] Their implementation should again be preceded by careful consideration of the impact on innovation balanced against the need to prevent appropriation of intellectual value and reputation.[220] In any case, any monetary compensation required under such a regulatory framework should be directed towards the outputs of GenAI as linked to inputs (as opposed to basing liability on inputs alone).[221] In the process of enabling compensatory avenues to address specific harms, regulation should not inhibit the general functionality of GenAI or machine learning processes that enable these capabilities.

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217   See, eg, California and Texas state law, discussed in Part V(A): *Lebas* (n 200) 564 (Croskey AsJ); *HCL v Atos* (n 202) slip op 9 (Horan MJ).

218   Note that collective or compulsory licensing as a solution to GenAI inputs and outputs is often raised in commentary, though whether it is practicable to license such vast volumes of content remains questionable: see, eg, Rita Matulionyte, 'Australian Copyright Law Impedes the Development of Artificial Intelligence: What Are the Options?' (2021) 52 *International Review of Intellectual Property and Competition* Law 417, 429–33 <https://doi.org/10.1007/s40319-021-01039-9>; Lee, Cooper and Grimmelmann (n 10) 57. See also Rita Matulionyte, 'Generative AI and Copyright: Exception, Compensation or Both?' [2023] (134) *Intellectual Property Forum* 33, 35–6 <https://doi.org/10.2139/ssrn.4652314>.

219   See, eg, Foerg (n 122). Such guardrails are reported to be rapidly evolving, with a search several days apart producing very different results, with progressively less regurgitation: Bruce Antley, 'AI Regurgitation: Is It Just a Hallucination or the End of Generative AI?', *LinkedIn* (Blog Post, 29 January 2024) <https://www.linkedin.com/pulse/ai-regurgitation-just-hallucination-end-generative-bruce-antley-ucafe>.

220   The Ultraman case decided in China provides an example of this, subjecting the relevant GenAI company to keyword filtering obligations as part of regulations with transparency requirements: *Xinchuanghua v AI Co* Translated (n 123) 1106, 1108.

221   Likewise, Martin Senftleben has suggested the development of an output-oriented levy system combined with mandatory collective rights management and opposed remuneration requirements for training activities that would weaken the position of the European AI sector: Martin Senftleben, 'Generative AI and Author Remuneration' (2023) 54(10) *International Review of Intellectual Property and Competition Law* 1535, 1554–6 <https://doi.org/10.1007/s40319-023-01399-4>.

Implementing such regulation raises a number of key challenges. The definitional challenges that plague copyright law arise here as well. For instance, what constitutes a sufficient competitive 'special advantage' achieved at the expense of creators' investments to trigger regulation of the GenAI model's design? The standard nevertheless lowers the threshold and does not require outputs to show substantial or objective similarity with copyright expression in a particular copyright work. It better captures the aim of protecting a body of work that is of reputational and creative value from appropriation. An administrative challenge is the identification of who is to be compensated, in addition to setting up the mechanisms for compensation. If the threshold standard is recognisability, then this regulation situated in a new GenAI-immersed creative economy would further favour or entrench the interests of famous and established creators and content producers. If we take the Studio Ghibli craze as an example, Hayao Miyazaki's distinct style would likely meet the threshold, though other anime styles that have proliferated the medium would not. Last but certainly not least is the challenge of political will to establish regulation in the face of countervailing commercial interests and political aspirations. We are in the midst of a global race for AI prowess, but AI regulation has been described as a race to the bottom 'spurred by the prospect of profit and pressure from industry'.[222]

Regulations applicable to system design should be a part of a holistic regulatory framework for AI. The problems associated with AI use range from bias, safety, and legal decision-making to privacy and unemployment,[223] and the issue of copyright content substitution through GenAI outputs may be seen as a specific representation of broader unemployment concerns. Without clear regulatory frameworks, it is no surprise that enforcement of existing proprietary rights under copyright before the courts becomes the first port of call. What is different and challenging about the regulation of AI companies is that '[f]or the past decade, big technology firms have effectively become independent, sovereign actors in the digital realms they have created'.[224] It has nevertheless been suggested that nations have an interest in working together to slow the proliferation of these powerful systems that imperil their authority.[225] Google and OpenAI themselves have identified the need for internationally coordinated approaches to regulating GenAI and consistent and coherent frameworks for AI development globally.[226] A further

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222   Smuha (n 210) 72. See also Ian Bremmer and Mustafa Suleyman, 'The AI Power Paradox: Can States Learn to Govern Artificial Intelligence – Before It's Too Late?' (2023) 102(5) *Foreign Affairs* 26, 43 (observing that there is a lack of political will to regulate AI, and 'all incentives point toward continued inaction').

223   Michael Guihot, Anne F Matthew and Nicolas P Suzor, 'Nudging Robots: Innovative Solutions to Regulate Artificial Intelligence' (2017) 20(2) *Vanderbilt Journal of Entertainment and Technology Law* 385, 402–13 <https://doi.org/10.31228/osf.io/5at2f>.

224   Bremmer and Suleyman (n 222) 28.

225   Ibid 41.

226   OpenAI's submission to the UK Government's proposal on AI and copyright stated that 'the stakes for global cooperation have never been higher' and that efforts to regulate AI should be 'as coordinated as possible': OpenAI, Submission No 0113 to House of Lords Communications and Digital Committee, *Large Language Models* (5 December 2023) 3 <https://committees.parliament.uk/writtenevidence/126981/pdf/>. Likewise, Google, in response to the US Government's proposal

argument that supports moves to regulate AI companies is that the establishment of legal certainty for stakeholders involved is important to facilitate AI uptake, and thus advancing countries' competitive positions.[227]

VI CONCLUSION

This article has focused on doctrinal analysis of copyright infringement in the GenAI context and its limitations, and in the process explained why GenAI-specific regulation is needed. Broadly, the copyright infringement enquiry can be divided into two stages: the use of copyright content as training inputs for machine learning and the generation of outputs using GenAI models. Each raises distinct questions for copyright law, but a holistic regulatory approach is preferable to a proprietary one.

The requirement that presents the most significant doctrinal and conceptual challenge for copyright infringement, particularly when considering outputs, is the need for a sufficient degree of similarity in expression (encapsulated by the substantial similarity or objective similarity tests). While dependent on system design and the type of prompting, GenAI outputs will, in many instances, struggle to meet the similarity tests for copying which were formulated with human authors and copiers in mind. Such tests require sufficient copying of original expression from individual works of authorship; they do not restrict others from drawing out patterns from bodies of works.

In the process of analysing these doctrinal questions and plotting a path forward, it is important to reflect on the broader context which surrounds GenAI and copyright law. Neither exists in a vacuum. We need measured solutions that respond to GenAI challenges, not knee-jerk reactions to expand copyright beyond its fundamental scope. Reading, learning and creating new expression built on existing ideas, concepts and styles are not copyright infringing acts; the same

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for an AI Action Plan has stated that we need to 'promote pro-innovation approaches internationally', encompassing the establishment of 'consistent, coherent, and interoperable frameworks and norms for AI development and deployment that reflect American values and interests': Google, Submission to Networking and Information Technology Research and Development National Coordination Office, *Request for Information on the Development of an Artificial Intelligence (AI) Action Plan* (13 March 2025) 9. It should be noted that arguments for pursuing AI supremacy are nevertheless present in both companies' submissions. For instance, OpenAI's submission to the US AI action plan proposal argues for the application of fair use to AI as 'a matter of American competitiveness': Christopher Lehane, Submission to Networking and Information Technology Research and Development National Coordination Office, *Request for Information on the Development of an Artificial Intelligence (AI) Action Plan* (13 March 2025) 10 <https://cdn.openai.com/global-affairs/ostp-rfi/ec680b75-d539-4653-b297-8bcf6e5f7686/openai-response-ostp-nsf-rfi-notice-request-for-information-on-the-development-of-an-artificial-intelligence-ai-action-plan.pdf>. 'Communications Committee launches Inquiry into Large Language Models', *UK Parliament* (Media Release, 7 July 2023) <https://committees.parliament.uk/work/7827/large-language-models/news/196281/communications-committee-launches-inquiry-into-large-language-models/>; 'Public Comment Invited on Artificial Intelligence Action Plan', *The White House* (Media Release, 25 February 2025) <https://www.whitehouse.gov/briefings-statements/2025/02/public-comment-invited-on-artificial-intelligence-action-plan/>.

227   Smuha (n 210) 59.

should be true of GenAI and machine learning. Infringement through the copying and dissemination of *expression* would continue to apply to machine learning processes and GenAI models. GenAI models enable the generation of creative and informational content built upon learnings and patterns from existing works, and it is the *application* of the law to the innumerable opportunities and potential for infringement using GenAI that presents a challenge.

However, regulation can be put in place to inhibit certain harms likely to arise from GenAI use. Outputs are enabled by GenAI through a combination of system design and system use, thus responsibility for harms caused by outputs should not be isolated and placed solely on users. Principles from the common law tort of unfair competition, which looks to remedy misappropriation of the fruits of another's labour, could support the formulation of sui generis regulation of GenAI proprietors in order to address copyright-related concerns. Such regulation could require the implementation of guardrails that inhibit the use of GenAI to replicate distinct styles and recognisable characters, and require compensation should GenAI models enable such use.[228] These measures could prevent the generation of outputs that unfairly benefit in competitive markets for expression and seek to appropriate the value and investment in a body of original authored works. These requirements regarding system design and what use capabilities are enabled should be part of holistic regulation of AI companies to address broader concerns, of which intellectual property is a part. Targeted regulatory measures should still enable the functional use of content for GenAI innovation while recognising and preventing identified harms to society.

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228   Note that Disney has filed a copyright infringement case against Midjourney in the District Court of California, claiming that Midjourney's GenAI image tool was an infringement of its copyright in popular characters such as Deadpool, Shrek and Minions: *Disney Enterprises Inc. v Midjourney Inc* (CD Cal, No 2:25-CV-05275, 11 June 2025). The litigation was filed as this article was being finalised and is ongoing.