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Title: 'Generative AI in fashion design creation: a copyright analysis of AI assisted designs'

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1.Introduction

Generative artificial intelligence technology (gen-AI) has become a tool at the hands of fashion designers, which allows for a modern and innovative way of design creation, incorporating AI informed text and image generation tools into their creative process.[1] The fashion world has witnessed several brands, such as Collina Strada, Revolve, and Gucci, proactively utilising gen-AI to generate new works of fashion and particularly, designs of silhouettes and prints. The numerous advantages of utilising AI technology within traditional fashion design creation processes include a more swift and accurate generation of trend-led designs that result from 'mining' hundreds of styles and dominant looks, complemented with sewing patterns suggestions or inspiration from other design elements. Designers' day-to-day tasks, therefore, become optimised and fast-tracked, while they can prioritise their time in engaging with their own creative process, making adjustments and often expressing their 'free and creative choices' in finalising the designs. Sections 2-2.ii. investigate current fashion practices and distinguish between the pre- and post-AI era of fashion design creation, whilst enriching the discussion with elements of fashion theory. Against this backdrop, in Sections 2.iii-2.iv. the paper explores whether newly created fashion designs - particularly silhouettes and fabric prints - that have come into existence with the assistance of gen-AI as a tool, are capable of meeting the copyright 'originality' threshold as their author's own intellectual creations and provided that the defy technical functionality. In doing so, the paper draws from relevant case law from the UK and other EU countries, placing particular emphasis on the CJEU jurisprudence on originality for works of applied art.

In Section 3, given that using the prior art and fashion archives as 'inspiration' can be taken to the next level with gen-AI's TDM, the paper further investigates the circumstances under which copyright infringement in relation to AI generated fashion design outputs could arise. The focus is on the right of reproduction under the InfoSoc Directive 2001/29/EC[2] and the UK CDPA 1988[3], as well as on transformative uses of AI generated derivative designs. The paper offers an interdisciplinary contribution on the technical underpinnings of AI models, shedding light on the extent to which commonly used gen-AI models which have been previously trained on in-copyright content could generate copyright infringing outputs, whilst enhancing the understanding on the design workflow of gen-AI systems. In this assessment, the analysis highlights the importance of data volume and diversity in the training and performance of gen-AI models. This mixed approach, where technological considerations inform the legal analysis, offers a spherical overview on the

[1] The authors would like to acknowledge the research assistance of LJ Robson, in sharing insights in relation to the operation and the technical characteristics of gen-AI models.

[2] Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society, OJ L 167 (InfoSoc Directive).

[3] Copyright, Designs and Patents Act (CDPA) 1988.

circumstances under which infringement would be more or less likely, thereby informing both EU and UK policymakers on the regulation of gen-AI technology.

The paper concludes that the emergence of gen-AI is a valuable complementary designing tool in the fashion sector. It is argued that designers have not given up their own intellectual creativity, but have rather enhanced their efforts and creative perspectives. At the same time, the paper underlines that infringement of the right of reproduction cannot be simply attributed to the use of AI designing tools, due to the technical underpinnings and operation of the technology. In the unlikely event that infringing derivative outputs could be generated, their subsequent modification by a designer could 'transform' them into new expressions that reflect their 'personal touch' and 'free and creative choices', turning them into non-infringing AI assisted designs.

2.Fashion designs as copyright works and AI in design creation

2.i. Fashion design creation pre-AI

The acceptance of some degree of 'copying' among designs is largely normalised as a cultural norm within the fashion industry. It is often baptised as 'dedication' and 'inspiration', instead of being treated as a practice which should be halted by taking infringement action against it.[4] The evolution of fashion and technology combined have only exacerbated the likelihood that fashion designs will be subjected to copying.[5] In recent years, there have been countless instances where the entire look of a garment is immediately being transported from the Paris Fashion Week's catwalk straight to an overseas factory, where a supplier can generate a mock-up within a matter of hours. Arguably, the threat is ever higher nowadays with the support copyists can receive from AI technologies.[6]

On the one hand, fashion designers are constantly drawing inspiration from the prior art and from each other. As such, some degree of 'copying' is necessarily taking place at every single segment of the industry, including at the creative design process.[7] Nevertheless, 'inspiration' or 'borrowing' elements from other designs does not necessarily equate to actionable 'copying' under the EU and UK copyright regimes. In reality, fashion designs are often influenced and shaped by the same sources[8]: seasonal trends, commonplace existing silhouettes, or designs from archives can all act as sources of inspiration. The phenomenon where numerous fashion designs bear similar features or adopt common styles originates from a customary industry practice which involves the 'remaking' of commonplace designs that are later used for the development of new

[4] P Shirwaikart, 'Fashion copying and design of the law' [2009] 14JIPR 1, 113.

[5] T Din Fagel Tse, 'Coco Way before Chanel: Protecting Independent Fashion Designers' Intellectual Property against Fast-Fashion Retailers' [2016] 24CUJLT 2, 417.

[6] E Rockett and others, 'Fashion 4.0 and emerging designers: leveraging data and AI to drive creativity, innovation and compliance in global supply chain regulation' [2025] 20 JIPLP 2, 113.

[7] E Myers, 'Justice in Fashion: Cheap Chic and the Intellectual Property Equilibrium in the United Kingdom and the United States' [2009] 37 AIPLAQJ 1, 57-58.

[8] See *Adenike Ogunkoya v Charles Harding* [2017] EWHC 470 (IPEC), para 45.

designs.[9] For example, British Vogue named the spiral silhouettes in exhibiting continuous loops as one of the trendy silhouettes for Spring/Summer 2025 that fashion brands are 'flocking' to use as an inspiration for their collections.[10] This phenomenon refers to when fashion brands adopt common design trends each 'fashion season', as they are flocking into the same trends.[11]

Given that fashion could be described as an 'oversaturated' field, it is not uncommon for fashion designers to try to differentiate themselves from others by independently creating designs as a new interpretation of the adopted trend.[12] Importantly, this individual 'differentiation' is a primary desirable feature in clothing designs and consumers' consumption habits, given that 'differentiation' is coordinated with 'flocking'.[13] This is because, as much as consumers want to differentiate themselves, they want to participate in fashion trends.[14] They make fashion choices that reflect communicative and expressive innovation that distinguishes them from others. Hence, 'flocking' is not the result of copying, but rather of shared influences and trends.[15] At other times, *prima facie* 'design copying' can ultimately lead to the creation of new fashion designs, which are non-infringing adaptations or 'transformative' works; or new designs which are a "homage" to the work of an earlier designer.

It follows that the new designs that result from these acts of 'borrowing' cannot always reach the infringement threshold of 'substantial taking' under UK law or 'part' under EU copyright law. Furthermore, while the 'flocking' phenomenon can promote convergence around a trend, the resulting designs are not necessarily infringing to one another. In fact, they are often capable of constituting 'their author's own intellectual creation' as original copyright works, which is further explored in Section 2.iii.

2.ii. Fashion design creation post-AI

Gen-AI technology has recently infiltrated the fashion design process. In 2024, New York Fashion Week designers, Collina Strada among others, showcased garments developed with the assistance of AI tools in generating prints and silhouettes (see Figure 1).[16] The growing use of AI among fashion designers may soon constitute a new norm of fashion practice and thus, this section outlines what the technical process of AI assisted designing is nowadays. The most relevant gen-AI systems in the context of design creation are those

[9] M San Martin, 'Field Guide: How to be a Fashion Designer' (Rockport, 2009), 23-24; G Cattani, 'From the Margins to the Core of Haute Couture: The Entrepreneurial Journey of Coco Chanel', [2023] 24 JES 2, 547, 556-557.

[10] See L Borrelli-Persson, 'The Key Spring/Summer 2025 Trends To Know Now', British Vogue (Jan. 29, 2025), <https://www.vogue.co.uk/article/spring-summer-2025-fashion-trends> [Accessed 16/04/2025].

[11] CS Hemphill and J Suk, 'The Law, Culture, and Economics of Fashion' [2009] 61 SLR 5, 1153.

[12] Ibid; M Lambert, 'The Lowest Cost at Any Price: The Impact of Fast Fashion on the Global Fashion Industry, Bachelor thesis, Lake Forest College (2014), 11; R Lee Blaszczyk, 'Producing Fashion: Commerce, Culture, and Consumers' (1st edn University of Pennsylvania Press 2008), 4.

[13] CS Hemphill et al. (n 11), 1164.

[14] Ibid; See H Härkönen, 'A Narrative Approach to the Standard of Originality in EU Copyright Law: The Story of a Dress' [2025] 2 IIC.

[15] CS Hemphill et al. (n 11), 1165.

[16] See A Bossi, 'AI-Generated Prints on the Runway Pose Existential Questions About Design's Future', Fashionista.com (Mar. 4, 2024), <https://fashionista.com/2024/03/ai-generated-prints-fashion-design-future> [Accessed 16/04/2025].

capable of generating multimedia outputs, particularly image generators, from either a text prompt that describes the desired output, or an exemplar media input (such as an image) that can be used to prompt outputs 'in the style of', such as MidJourney and DALLE.

Figure 1. Collina Strada's AI-assisted Spring/Summer 2024[17]

The gen-AI models that are commonly used by end users, including designers, are typically 'pruned' or smaller versions of earlier AI models, as they come with shorter training timeframes and a reduced computational burden during that process, without affecting their ability to generate high quality outputs in a shorter runtime. Rather than training a model from scratch, the learned concepts from a pre-trained model are commonly 'transferred' to form the basis for the newer model. Alternatively, re-training of the model with specific datasets, else called 'fine tuning', may be desirable where only a small set of input training data is available for consumption, while also ensuring representation of concepts which are particularly significant to the end user. An example of this in the context of fashion would be for a designer to utilise a pre-trained gen-AI model, but augment this with re-training of images of a specific design feature, i.e. the 'A-shaped' silhouette, that they wish to be inspired by or that they wish to create a 'homage' to the work of an earlier designer. While this example represents one of the most efficient uses of gen-AI in enhancing the design workflow, this would require some advanced technical expertise from the designer, and it may not always be a possibility.

Instead, what a typical design workflow with the assistance of AI technology would look like is summarised as follows: a designer would utilise a pre-trained gen-AI model best suited for the specific type of output they were looking to generate, e.g. image, and would curate a series of prompts to describe it. Typically, the more detailed and specific ('a red, midi length, sleeveless A-shaped cut dress with ruffles on the shoulders' vs 'a red dress') a prompt is, the more likely it is for the generated outputs to match to a designer's original thought process, whilst a specific context within the prompt (e.g. 'worn on a model during a catwalk on Fashion Week') can help with the visualisation of the designs in digital avatars. Prompt engineering varies between models

[17] Collina Strada, <https://collinastrada.com/pages/spring-summer-2024> [Accessed 16/04/2025].

and while text or image input via the standard interface is sufficient in many cases, it is possible for programmatic aids, such as prompt weightings, to modify the prompt so as to amplify the impact of a particular design feature, e.g. a specific silhouette.[18]

All in all, the use of gen-AI technology by designers is particularly promising and has a strong potential in enhancing how the fashion design process is being carried out. Not only does gen-AI provide designers with a valuable tool that can afford them with endless inspiration, combine hundreds of design elements for them and visualise them digitally within seconds, but also saves them precious time in this fast-paced industry, widens their creative perspectives and can lead to the creation of new innovative designs.

2.iii. Originality under EU/ UK copyright law

Given the potential of gen-AI in contributing to a boost of fashion innovation, some of the newly created AI assisted designs could qualify as works of applied art under copyright law. As such, this section delves into the UK and EU legal tests and how those might apply in the context of fashion designs which materialise with the assistance of AI technology. The assessment of copyright subsistence in the UK has long deviated from the EU approach. First, due to traditionally operating on a 'closed list' system of copyright works, where if the type of work is not expressly acknowledged by statute, it is not protectable at all.[19] Conversely, the EU 'open list' approach, expanding from an earlier provision found in the Berne Convention[20], dictates that *any* type of authorial work can qualify for copyright protection, provided that it is 'original', or else its 'author's own intellectual creation' (AOIC) as per the landmark ruling in *Infopaq*[21] and in line with the InfoSoc Directive[22]. Even while still being a member of the EU, the UK has never expressly deviated from the CDPA formality of categorisation, despite the Marleasing Principle[23] necessitating compliance with the EU law.
Notwithstanding the shift of the UK courts suggesting greater compliance with the EU jurisprudence - at least in respect of the test of AOIC for originality, also codified within sections 1-3 of the CDPA[24] - over recent years[25], arguments have been made that the door for compliance with the EU 'open list' approach for copyright subsistence has now closed. This is due to the passing of the Retained EU Law (Revocation and Reform) Act 2023, where the end of EU law supremacy and indirect effect over UK law was marked with the application of

[18] See OpenAI, 'Text generation and prompting', <https://platform.openai.com/docs/guides/prompt-engineering> [Accessed 16/04/2025].
[19] The UK exhaustive list of copyright protectable works is set out in the CDPA 1988 (n 3), s. 1(1).
[20] Berne Convention for the Protection of Literary and Artistic Works (1886), Art. 2(3), 14bis(1).
[21] *Infopaq International A/S v Danske Dagblades Forening*, C-5/08, ECLI:EU:C:2009:465, para 35.
[22] InfoSoc (n 2).
[23] *Marleasing SA v La Comercial Internacional de Alimentacion SA*, C-106/89, EU:C:1990:395; [1992] 1 C.M.L.R. 305; see also *Von Colson v Land Nordrhein-Westfale*, C-14/83, EU:C:1984:153; [1986] 2 C.M.L.R. 430.
[24] CDPA (n 3), ss.1-3.
[25] For example, see *WaterRower (UK) Ltd v Liking Ltd (T/A Topiom)* [2022] EWHC 2084 (IPEC), para 63; and *Wright & Ors v BTC Core & Ors (Rev1)* [2023] EWCA Civ 868, paras 61-64.

the Marleasing Principle.[26] Some commentators support that the UK has reverted to the closed list system for good[27], as the domestic courts can no longer rely on the Marleasing Principle to render the list open.

If it is accepted that categorisation remains and given that there is no longer an obligation for the UK copyright statute to be interpreted in line with the EU jurisprudence, whether a work can qualify as copyright protectable would be conditional upon neatly falling into one of the closed categories of 'works' specified within the CDPA. While the focus of this article is not on UK categorisation, works of fashion are generally capable of conforming with this additional formality, falling into the category of artistic works under section 4 of the CDPA. More precisely, AI generated digital fashion designs could fall under section 4(1)(a) of the Act as 'graphic works', while three-dimensional designs as garments could be classed as 'works of artistic craftsmanship' under section 4(1)(c) of the Act.[28]

With regard to the test for copyright originality in AI assisted fashion designs, such as clothing silhouettes and fabric prints, the EU 'open list' approach dictates that all authorial works are protectable when satisfying the threshold of being their 'author's own intellectual creation' (AOIC).[29] Despite prior deviation from the EU approach in assessing originality, the UK courts have slowly begun to accept AOIC in a number of judgments and to this day, it appears that this threshold remains in the UK even after Brexit.[30] Further copyright subsistence conditions dictate that a copyright 'work' must be expressed in a precise and objective manner as per the CJEU's *Levola* ruling.[31] Consequently, the concept of 'works' is extended to works of applied art, namely industrial designs and fashion designs, such as Brompton folding-bicycles and G-Star jeans designs.[32] The CJEU has harmonised the threshold of originality, ruling that authors must exercise creative choices which reflect their personality or personal marks to exhibit their own intellectual creation.[33] This denotes that the EU approach appears to focus on choices and contributions in both the preparatory steps in the design process and in structuring the expression of works.[34]

The CJEU rulings also acknowledge the dichotomy of technical functions in a work and its originality. Thus, when an expression of a work is 'solely dictated' by technical functions, no originality can subsist within such expression, because 'the different methods of implementing an idea are so limited that the idea and the expression become indissociable'[35]. Therefore, one must ask whether there is any room left for creative freedom that might not be greatly limited, which allows the idea and expression to become indissociable.

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[26] Retained EU Law (Revocation and Reform) Act 2023 Clause 3(1)(A1); inserted into EU(W)A 2018, s. 5.
[27] P Johnson, 'Inverted Supremacy', 'Weaker Precedent' and Other Uncertainties Brought About by the Retained EU Law (Revocation and Reform) Act 2023' [2023] 45 EIPR 1, 638.
[28] CDPA (n 3), s. 4(1)(a)-(c).
[29] *Infopaq* (n 21).
[30] (n 25); *THJ Systems Ltd v Sheridan* [2023] EWCA Civ 1354 [2024] E.C.D.R. 4., paras 14-16 and 22-28.
[31] *Levola Hengelo BV v Smilde Foods BV*, C-310/17, EU:C:2018:899, paras 33, 35-37.
[32] *Cofemel Sociedade de Vestuário SA v. G-Star Raw CV,* C-683/17, EU:C:2019:7211, paras 23-24, 29; *Brompton Bicycle v. Chedech/Get2Get*, C-833/18, EU:C:2020:461.
[33] *Eva-Maria Painer v Standard VerlagsGmbH*, C-145/10, EU:C:2011:798, paras 88-92; *Cofemel* (n 32), para 30.
[34] See, for example, *Painer*, ibid, paras 90-92.
[35] See *Bezpečnostní softwarová asociace v Ministerstvo* kultury, C-393/09, EU:C:2010:816, para 49; *Brompton* (n 32), para 33.

Furthermore, originality under EU copyright law will not be deducible only to the 'not-copied' from any prior works test.[36] Such test is arguably misplaced by inferring originality from the outcomes only, in order to establish creative choices.[37] However, incompatibly to the EU originality assessment, in *Response Clothing* the UK High Court stated that "if no sufficiently similar design existed before it was created, it must have been the expression of the author's free and creative choices"[38]. This English court's approach merely requiring that similar fabric designs were created to the claimant's Wave Fabric was barely reconcilable with the EU approach.[39] This 'not to copy' test is truly in contrast with the *Cofemel* mandate, where the CJEU ruled that in considering whether clothing designs were a result of the author's creative choices, it would be incorrect to consider merely whether the designs produced a new aesthetic effect. The CJEU rather ruled that originality must be considered and established distinctively on its own weight.[40] Therefore, based on leading CJEU rulings on works of applied art, copyright originality would neither be inferred from aesthetic effect, nor from novelty.

The CJEU approach has recently been acknowledged by the Danish High Court, and later affirmed by the Danish Court of Appeal, in a case concerning Ganni's Buckle Ballerina shoes (see Figure 2.). The Danish courts found that Ganni's shoe design met the threshold of copyright originality based on the CJEU decision in *Cofemel*.[41] Significantly, although the Buckle Ballerina shoes were considered to have been inspired by previous designs, some room was left for the designer's creative freedom and they successfully met the EU copyright originality threshold nonetheless.[42] In effect, previous designs can serve as the foundation for a re-interpretation by a designer, where it can be turned into a work as an expression of the AOIC, which must be considered distinctively on its own weight. The Buckle Ballerina shoes were found to be a protectable expression of the designer's own intellectual creation specifically in the contrast between the delicate, feminine shape of the ballerina shoes with its pointed toe, and the hardness of the angularity of the outsole with the punk-inspired buckles reflected the designer's own version of 'coolness'.[43] This has elucidated clearer the EU copyright originality threshold, as once the designers have a considerable degree of freedom, whether high or low, their designs and shapes that can be drawn upon the commonplace or previous designs can still reflect the designer's personality. Despite that straps and buckles are design elements which are commonly found in footwear, the originality in the Buckle Ballerina shoes subsists in the specific combination of

[36] L Bently, 'The Return of Industrial Copyright?' [2012] 34 EIPR 10, 670.
[37] L Bently et al., *Intellectual Property Law* (6th edn OUP 2022), 110-111.
[38] *Response Clothing Ltd v The Edinburgh Woollen Mill Ltd* [2020] EWHC 148 (IPEC); [2020] F.S.R. 25, paras 59, 68.
[39] K Güven, 'Eliminating 'Aesthetics' from Copyright Law: The Aftermath of Cofemel' [2022] 71 GRUR International 3, 224.
[40] *Cofemel* (n 32), paras 54-55. See acceptance of this approach by the UK Court of Appeal in: *THJ Systems Limited & Anor v Daniel Sheridan & Anor* (2023) EWCA Civ 1354, para 24.
[41] *Ganni A/S v. Steve Madden Ltd., et al*., BS-25562/2024-SHR, Judgment of the Maritime and Commercial High Court of Denmark of 9 August 2024; see also M Dewan, 'A View from Afar: A Reprieve for Fashion Footwear', LinkedIn post (Mar. 26, 2025), <https://www.linkedin.com/pulse/view-from-afar-reprieve-fashion-footwear-dr-mohan-dewan-f3pvf/> [Accessed 16/04/2025].
[42] V Priya Kohli, 'Fashion first: Buckle Ballerina shoes recognized as applied art under Danish copyright law' [2025] 20 JIPLP 1, 37.
[43] *Ganni A/S* (n 41).

contrasting design elements, such as, the pointed toe and distinct buckle placements reflecting the designer's own interpretation (Figure 2.).[44]

Figure 2. Ganni's Buckle Ballerina (left) - Steve Madden's Grand Ave (right)[45]

Despite a series of CJEU decisions on the notion of originality and works of applied art, including works of fashion, over the past decades, a number of EU national courts still find the assessment of the originality threshold as somewhat vague to this day. This is demonstrated by a series of referrals asking the CJEU to provide further clarifications on the conditions under which works of applied art can satisfy originality and ultimately how the originality assessment should be exercised in relation to such works.

Although academic commentary suggests that originality as the copyrightability condition that applies to all authorial works has been settled by the CJEU in *Cofemel* and its progeny[46], originality has been reiterated as the sole criterion for copyright subsistence in works of applied art, both by Advocate General (AG) Szpunar in

[44] See contrasting view by a French Court in 2024 (later discussed in Section 3.ii.I): *S.A.S. Rosae Paris v S.A.S.Seven August,* Tribunal judiciaire de Paris, RG n° 21/15174, Judgment of 5 April 2024; K Bercimuelle-Chamot, 'Simple combination of clothing styles does not confer originality', The IPKat (Apr. 27, 2024), <https://ipkitten.blogspot.com/2024/04/simple-combination-of-clothing-styles.html> [Accessed 16/04/2025]. See also E Rosati, 'When is a derivative work original and thus protectable by copyright? Classicist's critical edition makes its way to Luxembourg in fresh Romanian CJEU referral', The IPKat (Jan. 17, 2024), <https://ipkitten.blogspot.com/2024/01/when-is-derivative-work-original-and.html> [Accessed 16/04/2025].

[45] M Dewan (n 41).

[46] See M Levin, 'The Cofemel Revolution-Originality, Equality and Neutrality' in E Rosati (eds) *The Routledge Handbook of EU Copyright Law* (1st edn Routledge 2021), 85; S Sipetas, 'The copyright and design protection interplay post-*Cofemel*: continuity or recalibration?', 20 JIPLP 2, 92; E Rosati, 'Originality in Copyright Law: An Objective Test Without any Artistic Merit Requirement, Recalls Arnold LJ', The IPKat (Nov. 30, 2023), <https://ipkitten.blogspot.com/2023/11/originality-in-copyright-law-objective.html> [Accessed 24/05/2025].

his Opinion[47] and by the CJEU in its subsequent judgment in the *Kwantum*[48]referral, thereby affirming the Court's ruling in *Cofemel*[49] that no higher level of originality applies in respect of this category of works. In his Opinion[50] in the even more recent CJEU referrals in joined cases *Mio* and *konektra* by the Swedish and German courts respectively, the AG repeated that the terms artistic or aesthetic should not be used in the determination of copyright originality, since the term artistic contains 'a value judgement in the sense of a relatively high degree of artistic achievement'[51] and acknowledged that not every aesthetic choice necessarily reflects the personality of the author. Whilst the two proceedings are still pending before the CJEU, it is almost certain that this approach will be affirmed once more.

In this same Opinion, AG Szpunar further offered his views on how the originality assessment should be exercised in relation to works of applied art. First, he affirmed that the AOIC test must be assessed based on the facts of each case.[52] The AG continued to consider whether it is essential to take into account factors relating to the creative process and the creator's intentions or only the factors that are perceptible in the work itself. In his view, the focus of the assessment should be on whether original expressive elements are visible in the design's appearance, rather than merely on the author's state of mind.[53] As such, he found that other factors, such as the author's intentions during the creative process, the presence of existing known shapes or sources of inspiration, any independent parallel creations and any recognition by professional circles may 'constitute one indication, amongst others, of that originality', but are not decisive alone[54] and therefore, might be considered 'insofar as they serve to establish originality'[55]. As far as AI assisted fashion designs are concerned, it can be inferred from the AG's view that irrespective of what a designer's creative process entails, be it traditional pen and paper designing methods or AI tools, the originality in the final fashion design could not be impacted by this factor alone.

Lastly, on the point of functionality in utilitarian subject matter, the AG acknowledged that it might constrain creative freedom and merely because a designer's choices are not dictated by technical or functional constraints does not give rise to a presumption that they constitute creative choices.[56] In his view, where only minimal choices of the author can be identified in the appearance of a product, they can still be regarded as free and creative provided that they 'bear the imprint of the author's personality' and create a 'unique subject

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[47] AG Szpunar's Opinion, *Kwantum Nederland BV, Kwantum België BV v Vitra Collections AG*, C-227/23, ECLI:EU:C:2024:698.

[48] *Kwantum Nederland BV, Kwantum België BV v Vitra Collections AG*, C-227/23, ECLI:EU:C:2024:914, paras 49–50.

[49] *Cofemel* (n 32).

[50] AG Szpunar's Opinion, *Mio AB and others v Galleri Mikael & Thomas Asplund Aktiebolag*, C-580/23 and *konektra GmbH, LN v USM U. Schärer Söhne AG*, C-795/23, ECLI:EU:C:2025:330.

[51] Ibid, para 43.

[52] Ibid, para 40.

[53] Ibid, para 42.

[54] Ibid, paras 49-61.

[55] E Rosati, 'Of tables and other furniture: AG Szpunar advises CJEU on originality (but also proposes adoption of recognizability test for infringement)', The IPKat (May 8, 2025), <https://ipkitten.blogspot.com/2025/05/of-tables-and-other-furniture-ag.html> [Accessed 24/05/2025].

[56] AG Szpunar's Opinion (n 50), para 42.

matter'.[57] As such, the AG did not effectively deviate from the prior CJEU jurisprudence, but has rather reaffirms established principles, at least insofar as originality is concerned. The same, however, cannot be said for his approach in establishing infringement on the basis of 'recognisability', as discussed in the next Section.

2.iv. Copyright originality in 'AI-assisted' fashion designs

Classic silhouettes are versatile design elements that constitute fundamental tools and often form the basis of the garment design process. Silhouette repetition season after season is a primary tool that is commonly deployed by fashion designers, not only due to enhancing designers' ability to individualise a collection, but also for communicating the theme of a collection, in order to showcase a brand's identity as well as creations with their personal touch.[58] By 'moulding' them and distinguishing them by shape, materials and fabric prints[59], designers input their own interpretation on silhouettes and some play a central role in setting the theme and ultimately, dictating the success of a collection. For instance, a 'core' silhouette of a collection can give it an air of solidity and cohesion and various other silhouette designs variations of the 'core' one will be created.[60] This cyclical process where new fashion designs are consistently inspired by previous silhouettes, sometimes drawn from the public domain and others from iconic silhouettes curated and personalised by other designers, is an accepted norm in the fashion sector. The iconic Christian Dior's 'little black dress' (see Figure 3), is the prime timeless fashion silhouette example; it was developed and inspired by the conventional corseted hourglass-waist silhouette, but Dior offered a new-modern interpretation.

[57] AG Szpunar's Opinion (n 50), paras 60, 62.
[58] M San Martin, 'Field Guide: How to be a Fashion Designer', (1st edn Rockport Publishers Inc 2009, 60; JS Lee and C Jirousek, 'The development of design ideas in the early apparel design process: a pilot study' [2015] 8 IJFDTE 2, 155; S Faerm, *The Fashion Design Course Principles, Practice and Techniques*, (2nd edn Thames and Hudson 2017), 80.
[59] JS Lee et al. (n 58), 152.
[60] G Cattani, 'From the Margins to the Core of Haute Couture: The Entrepreneurial Journey of Coco Chanel', [2023] 24 JES 2, 547, 556-557.

Figure 3. Christian Dior 'little black dress' [61]

Nowadays, gen-AI technology is viewed as an advanced complementary tool that helps designers reduce their time and accurately generate new designs, including trend-led designs. For example, by processing large volumes of data that surround a specific seasonal trend and by generating designs that feature endless combinations of the specific design elements the trend dictates, including the cut, the stitching, the fit and the embellishments of a garment, and how those may be applied over various types of garments. What is more, previously designers resorted to inspiration from fashion archives, especially the archives of widely popular fashion houses. With gen-AI, they can now potentially gain access to a broader and more diverse 'pool' of fashion archives that are processed by gen-AI as part of their text-and-data mining (TDM), an integral technical process in gen-AI models' operation. This could expose them to a wider range of sources for inspiration, thereby contributing to fashion innovation and creativity.

On a practical level, gen-AI systems can also be utilised to assist with a designer's day-to-day tasks. Midjourney, for example, is an AI programme that is commonly used to generate images. By providing either text-based or image-based prompts, can generate realistic photographic images or sketches, and it is commonly being used to generate photorealistic sketches of garment designs. For instance, Figure 4. provides examples of Dior-inspired 'little black dress' design sketches using Midjourney.

[61] B Park, '15 Unforgettable Little Black Dresses', Vanityfair.com (Oct. 2016), <https://www.vanityfair.com/style/photos/2016/10/best-little-black-dresses> [Accessed 16/04/2025].

Figure 4. Design sketches of black dresses' designs inspired by Christian Dior's 'little black dress' design[62]

Consequently, by comparing the aforementioned Dior's iconic dress design and the AI generated version above, AI can support fashion designers in becoming more resourceful and productive. AI can further inspire designers by providing them with new and creative interpretations of their own designs. The technology can, thus, extend designers' own limits of creativity and can even surpass the confines of human cognition in some instances. In order to produce a complete work from a classic silhouette, fashion designers must have a specific illustrative skill, as this is essential to relay their ideas and character on designs. The primary 'technical illustration' in the design process is hand-drawn on paper.[63] This illustration technique is drawn exactly from how the finished three-dimensional garment looks like, as laid flat on a surface.[64] Hence, designers would need this intricate skill when entering specific and sufficiently detailed AI prompts, whilst paying attention to details that would be important in hand-drawing the design, so as to generate the desired design outputs that could be truly valuable as a baseline for innovative fashion designs. In contrast, the average user who would lack this skill might not end up with similar generated outputs, even if utilising the same AI programme. As such, neither gen-AI technology alone, nor AI users who lack design expertise, could replace the work of fashion designers.

This is further illustrated by the role AI tools play in the design workflow. For instance, an illustration is the blueprint that illustrates how the garment needs to be further amended, in order to produce a complete

[62] See AI-generated photo by A Boughlala using Midjourney, 'From Algorithm to Runway – Redefining Fashion Design Through AI', Modemuze.nl (Nov. 2023), <https://modemuze.nl/blog/algorithm-runway-%E2%80%93-redefining-fashion-design-through-ai> [Accessed 16/04/2025].
[63] A McKeefry, *200 Skills Every Fashion Designer Must Have* (1st edn Bloomsbury Publishing 2017), 78.
[64] M Brambatti, *Fashion Illustration & Design* (1st edn Promopress 2017), 41-43, 59-50.

work.[65] Typically, designers would alter the illustration to fit within the confinements of its three-dimensional works.[66] Whilst AI technology can enhance the design workflow by generating digital illustrations with a design's visual representation within seconds[67], it is only a technical tool that is incapable of creating designs that invoke consumer connections or artistic emotions.[68] Therefore, in creating visually personalised, but also artistically complex AI assisted designs, designers' own input and creativity is essential. An example of this is where AI can be used to create clothing design concepts, i.e. by processing hundreds of previous fashion archives, which fashion designers can subsequently work on and finalise, and eventually turn them into three-dimensional physical clothing.

Fabric choices are also particularly important, as designers must carefully consider how to productively integrate their designs and aesthetics in a way that supports the garments' anticipated silhouettes during the design process.[69] Therefore, all these preparatory works could be part of the copyright originality assessment, as designers actively make free and creative choices at various points of the design process. Whilst using AI can greatly reduce the time and streamline much of the design process, it cannot be said that AI is replacing fashion designers' intellectual creation, but rather act as efficient assistive tools that enhance their creativity and elucidate their imaginative personal choices to life.[70] Hence, AI assisted designs, or else AI generated outputs which have then been modified by a human designer post-generation, could potentially be viewed as the designer's own intellectual creation, provided that free and creative choices and the personal touch of a designer can be reflected within them.

Importantly, unlike other copyright protectable design features, such as patterns or *Response Clothing*'s Wave Fabric, capable of being applied on a fabric's surface[71], clothing silhouettes' protectability might not be as straightforward. Given that silhouettes must cover and fit around the human natural form, an argument has been made that these design features are, at least to some extent, dictated by technical constraints.[72] Nevertheless, it could be argued that, as in *Brompton Bicycle*, silhouettes are not *solely* dictated by technical function. That is because as designers still have the creative freedom to skilfully make choices even on AI generated clothing silhouettes based on personalised shapes and forms, rather than a common silhouette that fits around the wearer's body, resulting to a final creation that is something different from what would be an obvious choice within the design field in question. The new silhouette could be deemed a re-interpretation

[65] D Antoine, *Fashion Design: A Guide to the Industry and the Creative Process* (1st edn Laurence King Publishing 2020), 153.
[66] G Kuhnen, 'Perception and Expression in the Universe of Fashion Illustrations' [2019] 12 ModaPalavra e-periódico 23, 276-277.
[67] Ibid; P Liua and Y Liu, 'Analysis of Computer Fashion Illustration's Prospects' [2017]107 Procedia Computer Science, 408, 410-411.
[68] J Gibson, 'Why Look at Authors?' [2024] 55 IIC, 1379.
[69] P Di Trocchio, 'Madame Grès: Couturier at Work' [2014] 18 Fashion Theory 4, 470-471.
[70] J Lennartz and V Kraetzig, 'Forbidden Fruits? Artistic Creation in the AI Copyright War' [2025] 56 IIC, 243.
[71] *Response Clothing* (n 38).
[72] S Monseau, 'European Design Rights: A Model for the Protection of All Designers from Piracy' [2011] 48 ABLJ 1, 32-33.

of commonplace silhouettes, provided that designers express their creative vision, i.e. by choosing and using the right techniques and materials – and even the right AI prompts and input data - to create silhouettes that imprint a new form and shape on the wearer that are far from commonplace and that, despite being AI-assisted, are not solely dictated by technical functions.

3. Infringement

3.i. Gen-AI models' technical features and their relevance for copyright infringement

When evaluating the performance of a gen-AI model, certain aspects can act as indicators of the kind of outputs that will be generated, with direct relevance to potential copyright infringement as derivative works, when such a model may have previously been trained on in-copyright content. Those include its ability to adapt to diverse prompts, discriminate between related concepts, and produce outputs without significant deterioration in quality between iterations. Starting off with the latter, high generalisation performance in gen-AI models is particularly important for ensuring an equally high quality of outputs, which, in turn, would be less likely to infringe on copyright. In essence, it refers to the AI model's ability to produce outputs for a concept where there is not a direct, corresponding data sample for that concept when training the model. For example, the ability to produce an image of a red dress when given a text prompt, despite that an AI model may have been trained exclusively on black and white images of dresses, but colour images of other items. In this instance, the concept vectors used to encode 'dress' and 'output colour image' would be sufficiently distinct from each other, generalisation would be high and the possibility of generating outputs on the verge of infringement would be reduced.

Where a model has poor generalisation performance, it will be fundamentally limited to generating outputs that rely almost exclusively on the input data used for training. This could be the case where a gen-AI model has undergone 'fine tuning', or else has been re-trained with specific datasets. It is possible that the overtrained gen-AI model matches the original training data too closely and is able to reproduce the intricacies of the original dataset only to some extent, i.e. where the training dataset does not adequately capture the complexity of the concept that is sought to be learned, a phenomenon known as 'overfitting'. The examples below (Figure 5. and 6.) provide two different outputs of a red dress by gen-AI DALLE-3, using the same prompt 'Generate an image of a red dress inspired by pop culture'. Upon closer examination, both outputs have common features, such as the same length, the heart-shaped neckline, the draping and ruching design around the waistline, as well as the dress slit. While those features may have been common within the training datasets, they are not necessarily the overarching features in 'pop culture' fashion, thereby illustrating how a commonly used gen-AI platform like DALLE-3 can match the original training data too closely and equally produce outputs that closely imitate those data.

Figure 5. AI generated output by DALLE-3 with the prompt 'Generate an image of a red dress inspired by pop culture'[73]

Figure 6. AI generated output by DALLE-3 with the same prompt 'Generate an image of a red dress inspired by pop culture', in a new prompt session (approximately 10 minutes later)[74]

In cases where there is 'noise' within the training data (poor quality or bad examples), it is further possible for overfitted models to learn artefacts associated with the 'noise', and this would appear in future generated outputs. Conversely, overtrained gen-AI models may fail to adequately learn the inherent complexities of the data and produce poor accuracy for both known and unseen instances, a phenomenon known as 'underfitting'[75]. Given that most commonly used gen-AI systems undergo 'fine tuning', the possibility of experiencing either 'overfitting' or 'underfitting' is increased and in turn, this would lead to low quality generated outputs that suffer from low levels of generalisation. On the one hand, it is clear that, from a

[73] DALLE-3, <https://dalle3.ai/>, [Accessed 16/04/2025].
[74] Ibid.
[75] See C Aliferis and G Simon, 'Overfitting, Underfitting and General Model Overconfidence and Under-Performance Pitfalls and Best Practices in Machine Learning and AI' in (eds), *Artificial Intelligence and Machine Learning in Health Care and Medical Sciences* (1st edn Springer 2024), 477–524.

technical perspective, a gen-AI model would not directly 'copy' from existing data by replicating a concept vector. In effect, the gen-AI model is being merely influenced by existing data used in its training, and while a concept vector may bear some similarities with such data, it is, nonetheless, subsequently modified as a result of latent variable interactions incorporated by additional data points during the training process. Nevertheless, poor generalisation performance could effectively increase the likelihood that copyright infringing derivative outputs would come up, as illustrated in the above examples (Figure 5. and 6.).

3.ii. Infringement under EU/ UK copyright law

Under EU copyright law, the InfoSoc Directive sets out the exclusive rights of the copyright holders, whereas the CDPA 1988 sets forth the same under UK law. While the right of communication to the public and the right of making available to the public[76] seem relevant for the discussion on AI generated fashion outputs, on the basis that the designs could subsequently be launched during Fashion Weeks and brand campaigns, the analysis here will solely focus on the right of reproduction, in relation to AI-assisted fashion designs. Accordingly, Article 2 of InfoSoc Directive notes that 'Member States shall provide for the exclusive right to authorise or prohibit direct or indirect, temporary or permanent reproduction by any means and in any form'[77]. The relevant UK provision that offers protection against unauthorised reproductions of copyright works is Section 17 of the CDPA 1988.[78] It is important to note that, where gen-AI uses copyright protected training data, it is highly likely that some AI generated outputs could be viewed as derivative works, to which the largely unharmonized right of adaptation could apply. However, the UK domestic right of adaptation, as enshrined in Section 21 of the CDPA[79], only applies in relation to literary, dramatic and musical works. Unlike gen-AI text generators, this paper's focus is on gen-AI text-to-image generators. Accordingly, given that fashion designs created by or with the assistance of AI would fall within the artistic works category of protectable subject-matter under the CDPA, they would fall outside the scope of Section 21. Nevertheless, commentators such as Rosati and Sganga treat it as deriving from the broader right of reproduction under Article 2 of the InfoSoc due to applying to non-literal or altered copying, too.[80] Therefore, this section's Article 2 analysis aligns with this view and encompasses instances of AI generated outputs that may be viewed as derivative.

Copyright infringement in the UK is further assessed on the basis of the existence of three elements: the performance of a restricted act, i.e. an unauthorised reproduction, the existence of a causal connection and substantiality. Under section 16(3) of the CDPA, a causal connection between the copied part and the original

[76] InfoSoc (n 2), Art. 3(1); CDPA (n 3), s. 3.
[77] InfoSoc (n 2), Art. 2.
[78] CDPA (n 3), s. 17.
[79] CDPA (n 3), s. 21.
[80] See E Rosati, 'The 'high level of protection' of exclusive rights', in Eleonora Rosati, *Copyright and the Court of Justice of the European Union* (2nd edn Oxford Academic online 2023), 157-161; C Sganga, 'The right of reproduction', in E Rosati (eds), *Routledge Handbook of EU Copyright Law* (1st edn Routledge 2021), 141-142.

copyright work must be established.[81] Access to the protected work and the role of similarities between the two works are key in this assessment. There also needs to be copying of the whole or a 'substantial' part of the work, which constitutes the 'author's own intellectual creation', within the meaning of *Infopaq* (2009)[82], the landmark case which sets out the qualitative test for copyright infringement under both the UK and EU regimes. Lastly, as per *Designers Guild v Russell Williams* (2000), UK law stipulates that the expression of an idea must have been copied in order for infringement to be established.[83] In the context of AI fashion, a distinction must be drawn between purely AI generated fashion design outputs without human authorship and AI outputs which have been subsequently subjected to modifications or 'curation' after their generation by a fashion designer, else referred to as 'AI-assisted' designs.

3.ii.I. Purely AI generated fashion designs

Purely AI generated outputs could potentially infringe the right of reproduction on the basis of copyright-protected input data that have been fed into the AI system during its training phase.[84] An imminent risk posed by training generative AI systems on the works of copyright authors, including fashion designers, is the possibility of competing with or even substituting their work and style, which Senftleben finds to be an unreasonable prejudice of human authors' legitimate interest in earning income.[85] From a technical perspective, 'mining' large volumes of text and data (TDM) is an integral part of AI systems, a process defined as 'any automated analytical technique aimed at analysing text and data in digital form in order to generate information which includes but is not limited to patterns, trends and correlations'[86]. At the EU level, according to Recital 105 of the recently enacted AI Act[87], carrying out text-and-data mining on in-copyright material would equal to a reproduction of such material and this applies in the context of general-purpose AI models, including generative AI models. Yet such reproduction can be lawful when the trained materials are licensed, or when copyright exceptions are applicable and there is a public interest in allowing new research and knowledge to be produced.[88] The relevant mandatory exceptions for TDM are enshrined in the CDSM Directive 2019/790: the narrow Article 3 exception, which covers TDM for the purposes of scientific research by research organisations and cultural heritage institutions; and the slightly broader Article 4, concerned with

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[81] CDPA (n 3), s. 16(3).
[82] *Infopaq* (n 21).
[83] *Designers Guild Ltd v Russell Williams (Textiles) Ltd* [2001] FSR 11.
[84] See House of Lords, 'Large language models and generative AI', Communications and Digital Committee Report 2023-2024, (Jan. 29, 2024), 66-67; See British Copyright Council, written evidence (LLM0043) submitted to the House of Lords Communications and Digital Select Committee inquiry on large language models, (Sep. 2023) <https://committees.parliament.uk/writtenevidence/124253/html/> [Accessed 16/04/2025].
[85] M Senftleben, ''Generative AI and Author Remuneration', [2023] 54 IIC 1535, 3.1.
[86] 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 (CDSM Directive), Art. 2(2).
[87] Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 (AI Act), Recital 105.
[88] JP Quintais, 'Copyright, the AI Act and extraterritoriality', Kluwer Copyright Blog (Nov. 28, 2024), <https://copyrightblog.kluweriplaw.com/2024/11/28/copyright-the-ai-act-and-extraterritoriality/> [Accessed 16/04/2025].

reproductions and extractions of lawfully accessed material in the process of TDM.[89] While TDM exceptions are not part of the substantive analysis here, it is worth noting that Article 3 would likely be of limited assistance in the context of generative AI. On the other hand, the Article 4 exception, applicable for all purposes, including TDM for commercial purposes, would likely be of most value to AI companies or AI providers that engage in commercial activity, such as Stability AI or Midjourney.[90]

When it comes to AI generated outputs, *Getty Images v Stability AI*[91] is the first UK case where a claim for copyright infringement in AI outputs was brought against an AI provider, on the basis of TDM of copyright-protected images by Getty that were allegedly used as training material without prior authorisation. Whilst the High Court has not yet decided the fate of this claim, this part will examine whether infringement can be founded in such context and to what extent copyright material used in the 'making' of an AI output can be traced post-generation. It could be argued that while an AI generated output could be classed as a 'derivate work' off the original work, capable of infringing the right of reproduction if the protected expression is copied, this cannot automatically be inferred by the act of TDM alone. Although it is possible that the AI generated output carries a substantial part of the expressive elements of the original work that constitute the 'author's own intellectual creation', a derivative work that is simply based upon an earlier copyright work would not be sufficient to trigger infringement. Gervais takes an even stricter position on this point by arguing in the context of US law that, if it is accepted that in order to infringe 'a production must itself be a work and, therefore, original [...], then machines that by their nature cannot produce originality (due to their lack of human cause) cannot infringe'[92].

This view may be considered overbroad for the EU/UK copyright jurisprudence, given that the test for infringement does not place any weighing in the copyist's ability to produce originality, irrespective of whether they were human or not, but rather involves an examination of the copied part and whether it carries a 'substantial' part of the earlier work's originality. In the context of fashion, originality has been found to subsist not only in patterns, but also in other design elements that do not take up the entire surface of a work, such as Dr Martens' yellow stitching, applied on grooved shoe soles.[93] Since gen-AI learns on patterns and depending on the training data it has been fed, it is entirely possible that such stitching could be found within the AI generated shoes outputs and infringe, despite the small space this design feature would occupy in the

[89] CDSM Directive (n 86), Art. 3, 4. See also: CDPA (n 3), s. 29A.
[90] See E Rosati, 'No step-free copyright exceptions: the role of the three-step in defining permitted uses of protected content (including TDM for AI-training purposes)', [2024] 46 EIPR 5, 262–274; For a recent German judgment on TDM and AI, see: *Robert Kneschke v. LAION e.V.*, Case No. 310 O 227/23, (Sep. 27, 2024).
[91] *Getty Images & Ors v Stability AI* [2023] EWHC 3090 (Ch).
[92] D Gervais, 'AI Derivatives: the Application to the Derivative Work Right to Literary and Artistic Productions of AI Machines', [2022] 53 Seton Hall Law Review, 1127.
[93] A Armstrong, 'Dr Martens puts the boot into rival Inditex in copyright battle', The Times (Nov. 20, 2021), <https://www.thetimes.com/business-money/markets/article/dr-martens-puts-the-boot-into-rival-inditex-in-copyright-battle-r07cqmfr3> [Accessed 16/04/2025].

overall shoe designs, as the AOIC test is a qualitative one. It can, nevertheless, be argued that the replication of styles is a common occurrence in the fashion industry and it is expected to be the case when using AI tools. A recent example is *Rosae Paris v Seven August*[94], a dispute involving ready-to-wear clothing designs with commonplace design features. In this case, despite the combination of ruffles, gathers, pleats and oversize cuts in, among others, the claimant's 'Fraisier' design (Figure 7.) and the contrast between two opposing styles within the same design, no originality was found to subsist and as such, the defendant's 'Tosca' design did not infringe Rosae Paris' designs. Equally, having a purely AI generated fashion output in the style of designs created by the late iconic designer and creative director for Chanel, Karl Lagerfeld, would neither amount to copyright infringement.[95]

Figure 7. Rosae Paris' 'Fraisier' top[96]

The recent CJEU referrals in the joined cases *Mio* and *konektra* are expected to shed much needed light upon the treatment of works of applied art, not only in respect of how originality is to be assessed, but also in the context of infringement. Whilst the CJEU judgment is still pending, in the third part of the Opinion issued by AG Szpunar in May 2025, the criteria for assessing copyright infringement were considered in response to the Swedish court's referral in *Mio*.[97] Controversially, the AG opined that an analogous recognisability test previously applied in *Pelham I*[98] in the context of related rights for phonogram producers, shall apply in relation to works of applied art. In his words, 'in the case of partial reproduction of a work, only the recognisable reproduction of creative elements constitutes an infringement of copyright. However, in the case of such a reproduction, the fact that changes have been made to elements that are not creative does not mean that infringement cannot be established.'[99] In the AG's view, the right of reproduction would be infringed so long as the reproduced original and creative elements from the copyright work are 'recognisable' in the allegedly

[94] *S.A.S. Rosae Paris* (n 44).
[95] *Designers Guild* (n 83).
[96] K Bercimuelle-Chamot, 'Simple combination of clothing styles does not confer originality', The IPKat (Apr. 27, 2024), <https://ipkitten.blogspot.com/2024/04/simple-combination-of-clothing-styles.html> [Accessed 16/04/2025].
[97] AG Szpunar's Opinion (n 50).
[98] *Pelham GmbH and Others v Ralf Hütter and Florian Schneider-Esleben*, C-476/17, EU:C:2019:624, para 39.
[99] AG Szpunar's Opinion (n 50), para 70.

infringing subject matter.[100] The AG's proposal for adopting the recognisability test for works of applied art deviates from the copyright status quo, where a single test for infringement adopted in *Infopaq* is applicable to all types of works.[101] Not only does the AG's shifted approach differ from the stance of leading IP academics in Europe in evaluating infringement - on the basis of a 'substantial part' of the AOIC found within the allegedly infringing subject matter -, but also it has already faced criticisms.[102]

Rosati highlights that neither the CJEU in *Pelham I*, nor the AG in his Opinion have addressed how recognisability is to be assessed and from whose perspective[103], meaning that its adoption for works of applied art could create greater uncertainty especially for a creative sector like fashion, where a degree of 'copying' from the prior art is common practice and is largely accepted as a fashion norm. With recognisability in place, fashion designers would face greater risks for liability on a day-to-day basis and especially when designing pieces as a homage to other designers, meaning that the shift could stifle innovation and creativity in this entire sector. Furthermore, applying recognisability on infringement could create a further burden in the application of exceptions and limitations that relate to freedom of artistic expression. For example, parody and pastiche – exceptions that fashion designers often rely upon, which are expected to be useful also in the context of AI assisted designs – necessitate that the new subject matter evokes on the original copyright work, thereby making it all the more likely that a 'recognisable' original part would be present within the new subject matter. Whether or not the CJEU will endorse the AG's approach on infringement in its upcoming *Mio* and *Konektra* judgment remains to be seen, but there are strong indications that a departure from *Infopaq's* originality-based infringement test should be avoided.

Coming back to the AI context, in instances where an in-copyright work is widely popular, i.e. in the case of Hermès' iconic Birkin handbag design[104], within the input data, the likelihood that it may become 'reproduced substantially' in the output becomes increased, since most gen-AI systems are trained to 'remember' material and operate on the basis of statistical likelihood. In other words, information is being analysed in search for patterns from the data, which allow them to generate new works.[105] As such, the more often the work is being featured among input data, the more likely it is to appear, at least in part, within the AI generated end-product. Whether such 'part' found in the output would be enough to establish infringement ultimately depends on a qualitative assessment and whether an element of the earlier work's creativity is reproduced, as underlined

[100] AG Szpunar's Opinion (n 50). para 67.
[101] *Infopaq* (n 21)
[102] ECS, 'Opinion of the European Copyright Society in MIO/Konektra (Cases C-580/23 and C-795/23)', (Dec. 3, 2025); E Rosati, The IPKat (May 8, 2025) (n 55).
[103] E Rosati (ibid).
[104] Recently affirmed as a copyright work in France, see: S Atilla, 'Design or art? French court rules that Birkin Bag is a copyright work', The IPKat (Mar. 7, 2025), available at <https://ipkitten.blogspot.com/2025/03/design-or-art-french-court-rules-that.html> [Accessed 16/04/2025].
[105] C Callison-Burch, 'Understanding Generative Artificial Intelligence and Its Relationship to Copyright', Written Testimony to the U.S. House of Representatives Judiciary Committee (2023), 10.

by Griffiths.[106] The aforementioned phenomenon occurring within AI systems is commonly referred to as 'memorisation'. Guadamuz explains that 'training a model does not generate a repository of exact copies that become mixed into some form of collage in an output, and what happens is more like memorisation of what something looks like by the accumulation of data points that get stored in a latent space'[107].

Yet some commentators argue that 'memorisation' of prior input data that can be traced within the AI output itself is not a technical possibility in AI systems.[108] For instance, OpenAI asserts that AI systems use the 'patterns [they have learned during their training] to generate *entirely novel* media'[109] and that while such media might 'share some commonalities with works in the corpus (in the same way that English sentences share some commonalities with each other by sharing a common grammar and vocabulary), [they] cannot be found in [them]'[110]. On that basis, proving use of copyright protected material as input data would not be technically possible either. Unless AI providers disclose the sources which they have used as input data, proving a causal connection for the purposes of infringement would unlikely be feasible and thus, AI providers could escape liability.[111] With the passing of the AI Act, public disclosure of a 'sufficiently detailed summary of the content used for training the general-purpose AI model'[112] (including gen-AI models) is now an obligation for AI providers. Such obligation for greater transparency effectively means that establishing the existence of a causal connection and thus, infringement, is expected to be much more straightforward once AI Act's transition period comes to a close. In any case, AI companies are increasingly making use of AI output filtering technologies, including the use of filtering on AI users' textual prompts, so as to avoid infringing outputs from being produced in the first place. An analogous approach is adopted by other companies dealing with large volumes of generated content that may infringe copyright, such as Youtube's over a billion copyright actions that had to be examined via state-of-the-art filtering tools in the second half of 2023.[113] The use of AI output filters could further serve as evidence that AI companies comply with the obligations imposed upon them by the AI Act, which they could provide to designated AI Offices across EU member states.[114]

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[106] J Griffiths, 'Unsticking the centre-piece – the liberation of European copyright law?', [2010] 1 JIPITEC 2, 89.
[107] A Guadamuz, 'A scanner darkly: Copyright liability and exceptions in Artificial Intelligence inputs and outputs', [2024] 73 GRUR International 2, 124-125.
[108] P Domingos, 'A Few Useful Things to Know about Machine Learning', [2012] 55 COMMC'NS ACM 79.
[109] OpenAI, Comment Regarding Request for Comments on Intellectual Property Protection for Artificial Intelligence Innovation to the USPTO, Docket No. PTO–C–2019–0038 (2019), 9.
[110] Ibid, 10.
[111] For a discussion on AI output liability, see: JB Nordemann, 'EU law: Generative AI, copyright infringements and liability – My guess for a hot topic in 2024', Kluwer Copyright Blog (Jan. 23, 2024), available at <https://copyrightblog.kluweriplaw.com/2024/01/23/eu-law-generative-ai-copyright-infringements-and-liability-my-guess-for-a-hot-topic-in-2024/> [Accessed 16/04/2025].
[112] AI Act (n 87), Rec. 107, Art. 53(1)(d).
[113] I Lapatoura, 'YouTube's Transparency Report (July 2023 – December 2023)', Kluwer Copyright Blog (Oct. 14, 2024), <https://copyrightblog.kluweriplaw.com/2024/10/14/youtubes-transparency-report-july-2023-december-2023/> [Accessed 16/04/2025].
[114] AI Act (n 87), Art. 54.

3.ii.II. 'AI-assisted' fashion designs

AI generated outputs can form the basis for 'AI assisted' designs, which result from subsequent changes applied to the outputs by a fashion designer upon their generation. Despite gen-AI's arguably pivotal role in fashion innovation (as explored in Section 4), the possibility of being faced with potential copyright liability could disincentivize use of and experimentation with AI tools. While larger fashion houses could be more bold in such experimentation upon advisement on the copyright nuances by their dedicated legal teams, it is important to shed light into potential liability for the benefit of those players who lack those resources and who predominantly make up the UK fashion industry, namely individual designers and fashion SMEs.[115]

To begin with, newly created 'AI assisted' designs would not necessarily infringe copyright, even if the AI generated output on which they were based might have initially infringed upon the right of reproduction of an earlier copyright work. Importantly, 'inspiration' does not equate to copying, as in reality many fashion designs bear similar features. Depending on the alterations made by the fashion designer, the new design could potentially constitute a non-infringing 'derivative' or 'transformative' work, or even constitute a new copyright work in its own right. The 'sufficiency' of the creative choices made by the human author would be assessed under ordinary copyright rules. It is plausible that those alterations or 'creative choices' would be sufficient to differentiate it to the extent that no 'substantial part' of the original could be traced within the new work.[116] By extension, the 'AI assisted' final works would not constitute mere replicas of the original works and infringement would not be established.

An analogy to copyright works that are subjected to modifications both through AI systems, from input data turning into AI outputs based on prompts; and subsequently, through the creative hands of a designer post-generation, can be drawn from the recent case of *Vegap v Mango* (2024).[117] The case concerned the digitisation of in-copyright paintings by renowned Spanish artists, Miró, Tàpies and Barceló, their modification by commissioned digital artists into digital fashion items and their 'minting' into NFT fashion wearables without prior authorisation by the copyright authors. The new fashion creations bore common elements with the former artistic works they were based upon, as well as a number of new elements. On one hand, the artists claimed that their rights of reproduction (and adaptation) were infringed under Article 2 of the InfoSoc Directive, on the basis that the digital NFT wearables were not merely inspired by the five original paintings in

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[115] British Fashion Council, 'Growing Fashion Future', Report (Jul. 5, 2024), <https://www.britishfashioncouncil.co.uk/uploads/files/1/British%20Fashion%20Council%20-%20Growing%20Fashions%20Future.pdf> [Accessed 16/04/2025].

[116] *NLA Ltd v Marks & Spencer Plc* [2001] Ch 257, 268, per Peter Gibson LJ; and at 287, per Mance LJ: provided that the taken part is not de minimis or 'insignificant'.

[117] *Visual Entidad de Gestión de Artistas Plásticos (Vegap) v Punto SA (Mango)* (2024) (9th Commercial Law Court Barcelona), ECLI:ES:JMB:2024:1. See I Lapatoura, 'From *Hermès v Rothschild* to *Vegap v Mango*: An EU analysis on fair metaverse uses of digitised IP content', [2025] 8(2) Interactive and Entertainment Law Review; See C Sandei and I Lapatoura, 'NFTs & legal complexities through the lens of European IP, financial and consumer protection law', in S Basu and A Guinchard (eds), *A Research Agenda for Big Data and the Law*, (1st edn Edward Elgar Publishing 2026).

question, but were rather derivative works which carried a substantial part of their authors' originality. On the other hand, Mango put forth the argument that the new digital works had a transformative non-infringing character, as their sole purpose was to celebrate the brand's first US store launch, rather than commercial gain.

Even though the Berne Convention's three-step test[118] is what European courts would normally apply where no national exceptions to copyright exist, here the US fair use principles were applied, namely the purpose and character of the use, the nature of the work protected by copyright, the amount and substantiality of the copied portion and the effect of the use on the value of the copied work or its potential markets.[119] Under the US approach, as highlighted by Bikbaeva, a prima facie derivative work would be regarded as transformative, provided that it transforms the original work in some ways, altering the original with new expression, meaning, or message; [if it] offers something new and different from the original; or [if it] expands its utility, thus serving copyright's overall objective of contributing to public knowledge'.[120]

Although the Spanish court accepted Mango's defence and considered them to be non-infringing transformative works, 'it is unclear whether any specific message was being communicated, other than a homage to the artists and a connection or affiliation to the brand, despite Mango's owner claiming that the works intended to combine his three passions: fashion, art and his Mediterranean heritage'[121]. Although this case sets the bar low for gen-AI users, in proving that their AI assisted fashion designs that derive from in-copyright content are transformative and thus, non-infringing, it is not necessarily a precedent that will be followed in future disputes. In fact, earlier cases involving derivatives of prior copyright works with a much higher likelihood of 'transformativeness' compared to Mango's use have upheld infringement. As an example, a French case from 2021 concerned with a derivative work of Jeff Koons' 'Fait d'hiver' sculpture by a contemporary artist failed to prove 'transformativeness', despite the much more complex message the artist intended to convey, namely the 'glorification of banality through the use of materials, images, objects, references, or characters borrowed from the universe, culture, beliefs and popular reminiscences [...] referring to the imaginary, the dreamlike, the tale, and allowing multiple interpretations' in line with the Ready Made, Pop Art or Appropriation Art movements'[122]. As such, it is crucial for the author's personality and creative

[118] Berne Convention (n 20), Art. 9(2).
[119] US Copyright Act 1976, 17 U.S.C., s. 107.
[120] D Bikbaeva, 'AI Trained on Copyrighted Works: When Is It Fair Use?', TFL (Feb. 1, 2023), <https://www.thefashionlaw.com/ai-trained-on-copyrighted-works-when-is-it-fair-use/> [Accessed 16/04/2025]; See *Authors Guild v. Google, Inc.*, 804 F.3d 202 (2d Cir. 2015), 214.
[121] I Lapatoura (2025) (n 117).
[122] Paris Court of Appeal (Cour d'appel de Paris), judgment of 23 February 2021 – 19/09059; See A Sutterer-Kipping and M Sutterer, 'Copyright Infringement through the Exhibition of a Derivative Work in a Museum', [2022] 71 GRUR International 2, 181-187.

freedom to be present and documented through each step of the design process that ensues post-AI generation for the defence to successfully apply.

Lastly, even if an 'AI assisted' design that was based upon an infringing AI generated output could be found to *prima facie* also infringe upon an 'original' copyright work, despite the changes that were applied to it post-generation, this could still be challenged by a defence. For instance, experimentation with AI tools, even where use of parts of copyright material is involved, could be permitted for the purposes of non-commercial research or private study under Art. 5(3) of the InfoSoc Directive and under s. 29 of the UK CDPA 1988.[123] While such copyright exception would not cover instances of designers' training as part of their employment, it could, nevertheless, encompass designers' experimentation with AI tools either on their own, or whilst studying at a Fashion School and when preparing their portfolio as part of their studies. The application of this exception helps with researching and training on AI tools, which could in turn help maximise the production of new copyright works of fashion by new generations of designers.

4. Conclusion

The paper has explored the potential of gen-AI technology in enhancing the fashion design process, providing designers with a valuable tool that can optimise their day-to-day workflow in this fast-paced industry, as well as widen their creative perspectives. Notably, it is argued that gen-AI can contribute to a boost in fashion innovation, where a segment of fashion designs created using AI tools may qualify as novel works of applied art under EU and UK copyright law in Section 2. By merging the doctrinal analysis with elements of fashion theory, this Section further sheds light on what the relevant criteria or evidence would be in reaching the AOIC originality threshold in the design process, including in instances of AI assisted clothing designs.It stresses that even where commonplace design elements or AI tools are adopted as part of a designer's creative process, the AOIC threshold may still be fulfilled, so long as the AI assisted designs truly reflect the designers' own personality, result from their free and creative choices and defy technical functionality. The authors argue that looking at each point of the design process is essential in determining whether the designer's personality is reflected within AI assisted designs and a case-by-case approach should be adopted as to whether the changes that designers make on purely AI generated outputs as part of their creative process can amount to new copyright protectable AI assisted works.

Furthermore, fashion is an industry where 'borrowing' design elements is common practice among designers. With the emergence of gen-AI, using the prior art and fashion archives as 'inspiration' can be taken to the next level, as thousands of fashion designs, including in-copyright designs, can be analysed and processed rapidly to generate new outputs. Therefore, the paper also considers the position of copyright holders, whose protected designs may be the subject of TDM and subsequently, of AI processing and generation in Section 3.

[123] InfoSoc (n 2), Art. 5(3); CDPA (n 3), s. 29.

It explores instances under which the exclusive right of reproduction would be infringed in the context of both purely AI generated fashion outputs and AI assisted fashion designs, whilst considerations of the technical characteristics and operation of gen-AI systems enhance the doctrinal analysis. It is contended that the use of AI tools in the design creation process does not equate to infringing creations, as purely AI generated derivative designs can be subjected to 'sufficient' modifications by the designer that can turn them into new and non-infringing 'transformative' AI assisted designs.

In conclusion, the paper endeavours to inform both EU and UK policymakers on future regulation of gen-AI technology by informing the copyright analysis with technological considerations, in order to provide an overview on the circumstances under which infringement by AI outputs would be more or less likely. It further supports that the use of gen-AI tools in this creative sector can have a considerable impact for the promotion of innovation, given the technology's ability to process large volumes of fashion archives and pre-existing designs as part of their TDM that was previously unfeasible. Whilst the UK has not yet taken any legislative action and following two rounds of Consultations on Copyright and AI[124], this paper is a timely contribution to policy and regulatory decisions surrounding one of the largest global creative sectors, whilst recommending that AI innovation should not be unduly restricted, given that gen-AI already constitutes a valuable complementary tool, that could soon become integral, at the hands of designers for fostering fashion innovation.

[124] UKIPO, 'Open Consultation on AI and IP: copyright and patents' (launched in October 2021 and closed on 7 January 2022) <https://www.gov.uk/government/consultations/artificial-intelligence-and-ip-copyright-and-patents> ; UKIPO, 'Consultation on Copyright and AI' (launched in December 2024 and closed on 25 February 2025) <https://www.gov.uk/government/consultations/copyright-and-artificial-intelligence/copyright-and-artificial-intelligence> [Accessed 16/04/2025].