

Can we become Beethoven? AI created music: the musical and copyright issues around artificial intelligence and Beethoven's 10th symphony

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ABSTRACT

Can we become Beethoven? AI created music: the musical and copyright issues around artificial intelligence and Beethoven's 10th symphony.

Music created using artificial intelligence technology (AI) raises urgent questions over how to classify AI-created music. This paper will look at AI from a musicological perspective regarding what is music, and how that relates to copyright, moral rights and the right to monetize such works, with particular focus on the use of AI to create Beethoven's tenth symphony.

INTRODUCTION

AI: how the technology is used to create music.

AI is essentially a pattern-recognition system. Technology companies input large amounts of data into a computer system. They use automated computer techniques to analyse the data to identify patterns. In the case of music, AI is used to find musical patterns within that information to use to make computer-generated musical works. AI can also be used by musicologists or composers to create a form of hybrid music, part computer-generated using AI data and partly composed by a living individual. The creation of Beethoven's 10th symphony using AI in 2021 is an example of an early AI hybrid work.

Previous uses of AI in compositional processes include Schubert's final symphony (created using AI from the Huawei Mate 20 Pro smartphone).¹ Also known as the 'Unfinished Symphony', it had remained incomplete for nearly 200 years. Huawei's completed version of Schubert's Symphony No. 8 was created using both human expertise (involving composer Lucas Cantor²) and AI. Huawei used AI software on its smartphone to compose the remainder of the third movement, and a completely new fourth movement of Schubert's Symphony No 8. They analysed the timbre, pitch and metre of the existing first and second movements of Schubert's final symphony, and then generated the melody for the missing music. The composer Lucas Cantor was involved in creating the finished work so it is another example of a hybrid AI work.

Beethoven's 10th symphony.

In 1824, Beethoven premiered his final orchestral work, Symphony No. 9 in D minor. However, before his death he had begun work on a tenth symphony. All that remains of Beethoven's Tenth Symphony are fragmentary sketches of the first movement. However, these fragments have now been turned into a complete piece of music using AI.³

¹ <https://www.siliconrepublic.com/machines/unfinished-symphony-no-8-ai-huawei>

² <https://www.nbcnews.com/mach/science/ai-can-now-compose-pop-music-even-symphonies-here-s-ncna1010931>

³ <https://www.classicfm.com/composers/beethoven/unfinished-tenth-symphony-completed-by-artificial-intelligence/>

There have also been previous attempts to complete Beethoven's unfinished symphony. In 1988 Barry Cooper⁴ pieced together Beethoven's fragmentary sketches into a first movement, but was unable to go further.

Beethoven's Symphony No. 10 is an AI-generated work created using Beethoven's fragmentary sketches. The process of creating an AI version of Beethoven's 10th began in 2019. It involved a group of music historians, musicologists, composers and computer scientists. Dr Ahmed Elgammal, the lead computer scientist on the artificial intelligence project, explained⁵ that the team "had to use notes and completed compositions from Beethoven's entire body of work, along with the available sketches from the Tenth Symphony, to create something that Beethoven himself might have written."

Elgammal argued that "there are those who will say that the arts should be off-limits from AI, and that AI has no business trying to replicate the human creative process, yet when it comes to the arts, I see AI not as a replacement, but as a tool – one that opens doors for artists to express themselves in new ways."⁶

The entire 10th symphony premiered in October 2021 in Germany, together with a recording. On listening, I would say it is well constructed, well orchestrated, taking the best of Beethoven, bridging classical and romantic periods in style, without moments of great originality. I would assume this is because AI-generated music follows pre-existing patterns. It is not public information how much of this final product was from AI or created via the next step involving orchestration although Taylor, notes "the process was iterative: when the orchestra set to perform the symphony it found early drafts of it "virtually unplayable" so the team went back to the drawing board. In other words, the AI application was more a tool...rather than its composer."⁷ Others have been more more critical: Jan Swafford⁸ "At the end of the symphony I found myself more philosophical than annoyed... The ability of a machine to do or outdo something humans do is interesting once at most... True intelligence is in a body. Intelligence outside a living body, as some sort of abstraction, is innately impossible, or should be given another name. Artificial intelligence can mimic art, but it can't be expressive at it because, ... it doesn't know what expressive is. "

If it is a merely a tool, then the music should be given another name. This leads to us grappling with the ontology of music and legal issues:

Naming and ownership

AI-derived music has raised thorny questions over how we should describe and label it. There are ingrained assumptions about the nature of western music being created by living composers. Furthermore, music has traditionally been understood to be derived from a process, both notation by a composer, and then the 'process' of performance and sometimes recording via different mechanisms.

AI-derived music has also raised rights issues over who owns such an AI computer-generated work and for how long, in relation to copyright duration. In respect of Beethoven's 10th symphony, where all of Beethoven's work is currently in the public domain and no longer in copyright, it raises even further questions about giving rights to an AI creator using historic fragments, when the rest of a late composer's music is in the public domain. AI raises further issues over whether it is a new composition if new technology creates works using snippets or patterns from a late composer's work.

These issues of naming, language, copyright and ownership are inter-connected because what we value, permit and call music relates to existing frameworks of copyright and ownership in order to support monetisation. In relation to AI musical works, both musicological language and copyright may need to change to embrace the opportunities of AI music as well as protecting the time and investment given to composing original music by living composers.

⁴ Symphony No. 10 in E-Flat Major: Symphony No. 10 in E-Flat Major: I. Andante - Allegro - Andante (realized and completed by B. Cooper) [Realized and Completed by B. Cooper], recording City of Birmingham Symphony Orchestra, cond. Walter Weller

⁵ <https://theconversation.com/how-a-team-of-musicologists-and-computer-scientists-completed-beethovens-unfinished-10th-symphony-168160>

⁶ <https://theconversation.com/how-a-team-of-musicologists-and-computer-scientists-completed-beethovens-unfinished-10th-symphony-168160>

⁷ E. Taylor, 'AI Has a Ways to Go Before It Replaces Human Creativity', in World Politics Review, 19, October, 2021

⁸ J. Swafford, The Intelligence of Bodies, The philosophical and musical failings of "Beethoven X: The AI Project" on his blog: Beethoven X: The Intelligence of Bodies • VAN Magazine (van-magazine.com), October 7, 2021

Part 1: Musicology/Ontology

1.1 Naming music

Bohlman⁹ raises questions over the ontologies of music: he reflects on the many different meanings we ascribe when we talk about 'music' including the underlying real creator. He describes the personal link between a living composer and their personal output. If AI music is computer-generated, without a living creator, there are labelling concerns around calling it music. It could instead be regarded as an audio output. The word 'music' could be reserved to sounds connected to a living individual's creative input.

Bohlman thinks music exists in the 'conditions of a process,' that it is in a state of flux, that a name might be assigned to it but it is always incomplete.¹⁰ In respect of AI music, a different name might solve matters, or at least a label indicating it is AI-generated. The process Bohlman mentions is technical eg tape, digital storage, notation on paper. This is equally applicable to AI, although it has additional processes at first to ingest data and produce patterns. Yet the real difference between AI-generated music and music created by a living composer is about that 'spark' of expression only a living composer can create.

The AI work entitled 'Beethoven's Symphony No. 10' is a hybrid work, currently termed music. If musicology follows the legal approach, it is likely to label a hybrid as 'music' because it involves sufficient input by a living composer or musicologist. Beethoven's Symphony No. 10 certainly involved a team of music historians, musicologists, composers and computer scientists. Musicology and the law have both traditionally understood a musical work to involve a living person's intellectual creation (detailed below). Where the composer or team of musicologists and composers, using AI software, jointly reflect their personality/ies in sections of music developed from their creative choices, the resultant work may reach the threshold to be seen as a copyright work and called 'music' from an ontological point of view. Although, this brings up the question of whether we should call this 'music' or do we reserve that honour for original works by living composers with a degree of intellectual creation.

1.2 How music is conceptualized in western music

Music as a term in western music tradition, is categorized in various ways: it can be related to (i) politics/social meaning, or (ii) as a creative output, unique to a particular composer, rather than just in relation to sound or notation. Bohlman recognises that multiple ontologies of music exist at the individual level, local and global level.¹¹

Whereas software code can be written (although with often unique output, often termed 'look and feel' in respect of creative software) or mathematical code/formula can be discovered, music has traditionally always involved intentional creativity and thought. Human composition might involve chord progressions, and a skilful composer, using contemporary techniques might use tonal or atonal techniques (12 tone, octatonic, serialism), sometimes involving chord progressions, tone centres, to create something original. Spectral composers take sonority and sounds further in unique sound worlds.

As Bohlman argues 'music that is truly "my music" cannot be a process for then it might be someone else's.'¹² However, if it is AI computer-generated, certainly it is process-driven, that might be owned by the software owner. If created by computer should it be called 'music'? Is it instead mere sound or a pattern and only reaches the threshold of 'music' if it is at least a hybrid involving a living musician, musicologist or composer who adapts an AI pattern into notated music.

In respect of naming and ontology, AI produced music should at least be labelled as AI-generated. It is more likely that AI music will always be hybrid, involving in part a composer and that as we get used to the works

⁹ P.V. Bohlman, 'Ontologies of Music' in *Re-thinking Music*, Ed. Cook and Everest (Oxford University Press 2010), 17

¹⁰ Bohlman, *Ontologies of Music*, 18

¹¹ Bohlman, *Ontologies of Music*, 17

¹² Bohlman, *Ontologies of Music*, 20

formed, it will be no different than other forms of contemporary music using advanced software notation packages.

Part 2: The legal perspective

Musicology and the law have traditionally understood what is accepted as a musical work in similar ways. Each has grappled with a threshold for originality and involvement of living composers to justify calling something music. Musicology goes further with different categories of labels such as 'My Music' (ie a composer's own work attributed to the individual), 'Our Music' (a particular culture or community's music), 'Music in Numbers' (referring to mathematical patterns already existing for music), and 'Music as language' (with special semiotic qualities).¹³

Now, with the advent of AI and hybrid compositions, these stable conceptions are disrupted. As both musicologists and lawyers grapple with finding solutions regarding what to call music and how to own it if is AI computer-generated. It may be each of their solutions informs the other, enabling technological innovation whilst promoting greater value in human creativity.

Arguments that apply to the moment when a musical work gains copyright, tangentially apply to what might be called music. If something is computer-generated alone, it could be argued that it is not music, that it is electronic sound, given a different name and lesser rights. It strikes me, however, that we cannot control people and people will call it music if that's how they hear it. Whilst the ontological may well not be controllable, the ownership, copyright duration and commercial value of purely AI computer-generated, hybrid and original forms of music can be controlled.

2.1. Copyright

Literary, musical and dramatic copyright works under European law require a basic level of initial creative input from a living person. The UK is unusual in that computer-generated works using AI attract a form of copyright protection.

One issue therefore with music created using AI software with or without some human input (such as from a musicologist or composer), is whether the laws of copyright should further recognise such works, when they lack any form of true creative input from a living individual. This then in turn might inform how we distinguish between music and AI computer-generated works.

As the AI/Beethoven's tenth symphony project progressed, the human side and the machine side of the collaboration evolved. Werzowa, Gotham, Levin, and Röder deciphered and transcribed the sketches from the Tenth Symphony, trying to understand Beethoven's intentions. They had to make decisions, like determining whether a sketch indicated the starting point of a scherzo or that a line of music was likely the basis of a fugue. So, it was a hybrid work. We will see below that this may well still be sufficient to gain copyright protection.

A. UK law

Original music is protected in various ways protected under UK copyright law as a:

- Musical work¹⁴; and
- Sound recording¹⁵.

In the UK, a musical work i.e. a new song, a new orchestral piece, a new opera must be original¹⁶ in order to qualify for copyright protection. The UK moved slowly towards a more European approach which relates to an

¹³ Bohlman, *Ontologies of Music*, 19-25.

¹⁴ section 1(1)(a), The Copyright, Designs and Patents Act 1988 (CDPA)

¹⁵ section 1(1)(b), CDPA

¹⁶ The ECJ in its landmark decision in *Infopaq International A/S v Danske Dagblades Forening* (Case C-5/08) referred to a copyright work within the meaning of Article 2 of the Copyright Directive if as 'the expression of the author's intellectual creation'. There is some uncertainty around whether EU law has changed the UK originality test. See: Nicholas Caddick, QC, Gwilym Harbottle, Professor Uma Suthersanen, in Copinger and Skone James

intellectual creation by a living person: the composer must have created their musical work through their own skill, judgment and individual effort and it must not be copied from other works (*Ascot Jockey Club Ltd v Simons*¹⁷).

The difficulty is AI musical works are likely to be mainly computer-generated and at first relate to existing works. It may well be that it is more appropriate to think of the AI 'music' product as a computer-generated work with lesser copyright protection. Or, a new form of intellectual property protection might be considered, but that requires serious consideration about whether we wish to motivate technology companies to develop AI capacities further, who will look to the financial value/rights duration in their product.

One solution is that musical hybrid works, such as Beethoven's 10th, made by a computer and living individual, could be required to satisfy a higher originality test, as is required currently for databases. That test could be that the AI musical work involves a process involving selection and arrangement by a living composer.

A sound recording made from an AI work counts as being what is termed an entrepreneurial work. These do not have an originality requirement. In the UK this copyright has a term of 70-years from release of the sound recording. This is potentially a shorter term than the copyright in say a song or orchestral score of 70 years after the death of the composer.

The European Court of Justice (ECJ) in *Funke Medien NRW GmbH v Bundesrepublik Deutschland*¹⁸ said that 'subject matter can be protected by copyright under the Copyright Directive only if such subject matter can be classified as a "work" within Article 2(a) and 3(1) of the Copyright Directive.' So, in relation to AI musical works, we turn to what is a musical work or not under EU law. We will delve deeper into human creation and giving it copyright value or not if it involves a computer:

B. European law

According to ECJ case law, the test developed in *Levola Hengelo*¹⁹ and *Cofemel*²⁰ required:

- The subject matter to be original in that it was the author's own intellectual creation; and
- Only something which was the expression of the author's own intellectual creation could be classified as a "work" within the Copyright Directive.

Further clarification was produced in *Cofemel*²¹:

- The work should reflect the personality of its author, as an expression of their free and creative choices.
- The realisation of a subject matter must not have been dictated by technical considerations, rules or other constraints, which left no room for creative freedom.
- The work must be identifiable with sufficient precision and objectivity, meaning that aesthetic originality cannot be relied on as a criterion to determine whether the originality requirements are met.

In *SI, Brompton Bicycle Ltd v Chedech/Get2Get*,²² the ECJ went further, stating a work satisfying the condition of originality could be eligible for copyright protection, even if its realisation has been dictated by technical considerations, provided that this had not prevented the author from reflecting their personality in that subject matter, as an expression of free and creative choices.

on Copyright, 18th Edition (Sweet & Maxwell 2021), 3-180 to 181 and see: The Court of Appeal in *The Newspaper Licensing Agency Ltd and others v Meltwater* [2011] EWCA Civ 890 considered that it had however, the Court of Appeal in *SAS Institute Inc v World Programming Ltd* [2013] EWCA Civ 1482 (21 November 2013) considered that the Infopaq test might not be quite the same as the traditional originality test under English law.

¹⁷ *Ascot Jockey Club Ltd v Simons* [1968] 64 WWR 411

¹⁸ *Funke Medien NRW GmbH v Bundesrepublik Deutschland* (Case C469/17) EU:C:2019:623 (29 July 2019)

¹⁹ *Levola Hengelo BV v Smilde Foods BV*, Case C 310/17 EU:C:2018:899

²⁰ *Cofemel - Sociedade de Vestuário SA v G-Star Raw CV* (Case C683/17) EU:C: 2019:721

²¹ Catherine Bingham, Dentons and Shona Harper, 'Copyright: subsistence, duration and first ownership' (Practical Law IP&IT 2021).

²² *SI, Brompton Bicycle Ltd v Chedech/Get2Get* (Case C-833/18) EU:C:2020:461 (11 June 2020)

The challenge is how AI might develop with respect to developing music and whether copyright protection is given to technically created musical works. Beethoven's tenth was strongly dictated by technical considerations, it being the essence of how AI works which might discount its eligibility for copyright protection. However, using the wider interpretation of the *Brompton Bicycle* case, Beethoven's tenth, whilst created by AI, also involved a team of living musicologists and composers. Any future AI musical work where the composer or team of musicologists and composers jointly reflect their personality in sections of music developed from their creative choices, may reach the threshold for the resultant symphony or music to be seen as a copyright work in the EU.

The legal and musicological language both grapple with how to define the moment of creation. Toynbee bravely labels the notion that music comes from within, as a direct product of the psyche of the creator, as a romantic idea. Yes music is often a living individual's creation, involuntary, in stages (idea to form), as elucidated by Toynbee²³ however he argues there are fundamental problems with such a conception of music because music is not just created by geniuses; today it is created by a wide range of individuals with varied music expertise using midi and traditional music notation software.

Taking this one step further, AI may download and analyze patterns created by an original composer's personality. Certainly, I would agree with Toynbee that for some future musical works, the idea that music is only created by geniuses via a mystical process, is too restrictive for our likely future that computers partly create sounds using a software process.²⁴ Whether we regard it as a high-enough form of art to call it music, is likely to be both a process of law, business and culture. Law might downgrade its value and label it a 'computer-generated sound', if the legislation gives it a new label, although a festival-goer listening to hybrid-created sounds at a concert may well call it new music. The label i.e. the ontology is therefore likely to be both from the process of creation, the legislative framework, and the moment of reception. It is also likely to be cultural: if AI works are acknowledged to be a form of music, then its acceptance at a cultural level will partly determine how we describe such works.

C. Computer-generated works.

Unlike most other countries, the UK protects computer-generated works which do not have a human creator (under s178 CDPA, "computer-generated", means the work is generated by computer in circumstances such that there is no human author of the work). The law designates the author of such a work as "the person by whom the arrangements necessary for the creation of the work are undertaken" (s9(3) CDPA). Protection lasts for less time i.e. 50 years from the date the work is made (s12(7) CDPA). So, at present a musical work generated by AI would be protected in the UK for 50 years. However, if only created by computer, an immediate issue in a world of digital online musical exploitation is that many other countries do not grant protection, unless such a work involves some element of human intellectual creation. Music only protected in the UK and not beyond the UK into Europe, USA, Asia will be problematic and worth far less.

If we continue with this separate protection of AI musical works, the concept of originality and author will need clarification. At present case law on originality under the CDPA, as per above, still refers to intellectual creation by a living person not a threshold of difference created by computer. With music this will be problematic, because music chord progressions, and other patterns are arguably not original, yet that is what music, generated by AI, is using, an analysis of patterns. It is anticipated that we will have to move away from originality to a concept with AI music that protects time, investment and a resultant soundscape that is a new sound even if it uses underlying non-original musical progressions or patterns.

On 29 October 2021 the UK Government launched a 10-week consultation on [Artificial Intelligence and Intellectual Property: copyright and patents](#).

In relation to copyright, the consultation questions whether computer-generated works (CGW) without a human author, currently protected in the UK for 50 years, should continue to attract copyright protection and, if so, how such works should be protected. The Government is also considering ways to improve the licensing of,

²³ J. Toynbee, 'Music, Culture and Creativity' in *The Cultural Study of Music*, Ed. Clayton, Herbert and Middleton (Routledge 2003), 104

²⁴ Toynbee, 'Music, Culture and Creativity,' 104

or extend the exceptions to, copyright for text and data mining, which is often significant in AI use and development.

In relation to music, the Government is looking at three options relating to CGW. The first is to **make no legal change**. The second option is to **remove protection for CGWs altogether**, and limit musical copyright to living composers and songwriters. Whilst under this option musical works generated by AI and a computer would not be protected by copyright, AI-assisted works with a sufficient level of human intellectual creativity would continue to be protected, as would entrepreneurial works made by AI since these do not have an originality requirement. The third option would be to **replace the current protection with a new right** of reduced scope/duration e.g. twenty five years. This might work well with hybrid AI and composed generated music like Beethoven's tenth.

All three options grant fairly long periods of protection. It is likely that if AI develops to a sufficient level of quality to easily replicate dead or living composers' work that it will be produced in huge volumes. A market for such work and value will also be related to quality and accessibility- whether it features easily on search engines (YouTube/Spotify).

2.2. Moral rights

Moral rights protect a composer who creates work such as music for a concert hall, pop, opera, games, films, television. To be protected he/she/they need to be the 'author' (a wider legal meaning) and in particular moral rights include a paternity right (which is the right to be named as the author of the work). Further, moral rights enable a composer to object to derogatory treatment (which is when their work is edited in ways that they don't like.) In the UK, once a composer dies they lose any further protection under moral rights law. This would mean in the UK, that Beethoven and his estate would have no rights to prevent the creation of the 10th symphony or to object to music using Beethoven's name.

However, if AI is using a late composer's name and attributing an AI work to them, there is an argument for protection after death to prevent a piece created by computer being attributed to a composer without permission.

There are many reasons why it should not be allowed: for example in Spotify if there were large volumes of AI-generated works attributed to non-living composers in the future, it's likely there will reach a volume of works where somebody searching will not be able to distinguish between the true works from a composer and a computer-generated work. It could be argued that advertising law protects the public from false attribution, however because AI work such as Beethoven's 10th symphony uses fragments of music he left behind, his name is being used as an attribution. It would be more truthful not to use his name and to say it was a symphony inspired by Beethoven.

Part 3: Exploitation of AI

Turning to ownership of music, rights to monetise and receive the revenue from computer-generated works based upon sketches or fragments of unfinished compositions, there is an argument that any new works, even if computer generated, should be something that can be owned and used to make money.

In order to incentivize people and businesses to invest in AI, some form of ownership and exclusivity will need to be given. However, there are those who may feel that fragments of music such as Beethoven's, used to generate new works, such as Beethoven's tenth symphony, should be free and in the public domain and not re-enter contemporary copyright protection if they're based upon current public-domain materials. A middle ground may well be that these works have a very short protection, for example 5 years and then enter the public domain to find the balance between these competing interests.

The impact of AI on composing and music making itself is important: if the value of computer-generated works is not handled carefully it could reduce the value of living composers' work. If the value of living composers' work decreases it may demotivate or reduce the amount of income going to living individuals. Alternatively, if historic works and late composers' work is re-imagined, there is a novel argument about whether it should remain public domain. If it remains freely available how can a software company or underlying creator be motivated to create such works?

Since the late 1990s, the conceptual and legal frameworks of free software have been used in the growth, commodification and regulation of the Internet.²⁵ In so far as AI and music generation ends up being something that can be done online (which is highly likely since most digital composing software is online e.g. Sibelius, Dorico, Musescore), then should some AI music be free and in the public domain?

Much of the rhetoric surrounding free software and 'the commons' shares notions of property, creativity and freedom²⁶ and it is a tug of war between economic concerns and liberalism. Should music created from public domain music, such as from Mozart or Beethoven, be free even if recreated using AI? Arguably, like the proliferation of the internet via free software, there is a strong argument that if we decide not to protect AI-generated works (except for the next stage of sound recording, as an entrepreneurial work, protected separately), that it will stimulate musical creativity, away from the fear of infringement. As Karanović points out, platforms can allow users to use the software free of charge, without access to source code in the software (so music could be created freely and shared without giving the AI software underlying software code). The free music could be used as a commodity akin to the way YouTube uses free video for advertisers.²⁷

Conclusion

AI is an opportunity. An opportunity to create music, sounds and new works although the talent and process of living creation should be respected, as well as the names of historic composers. The creation of Beethoven's 10th is an amazing technological feat, yet the music lacks any originality. Since AI is a technical tool, without artistic originality or expression, it should be labeled as such. Since we don't make the same connection with formula and patterns as we do genuine artistic expression, it is my view that it is not appropriate to use Beethoven's name and it will lead to dangerous confusion if it continues with large volumes being released into the music market of different works mis-attributed to composers as AI's ability to create music develops. Whilst moral rights law may not protect dead composers adequately against such a confusion, advertising law may step in to prevent the marketing of new works as being wrongly attributed to a composer.

If AI music is computer-generated without a living creator, we might call it computer-generated sounds and not label it as music whilst giving it less copyright duration, enough to motivate software developers, yet distinguish the work from that made by living individuals using their time, skill and investment. The likely hybrids are also likely to be labelled music, which seems appropriate because as soon as underlying materials are then used to compose, it would be hard to describe it in another way. So the ontological line of accurate naming would be drawn between solely computer-generated and hybrids. This naming division needs to be supported by a legal ban on misappropriating composers' names who are not living so without the legal protection of moral rights.

We should motivate composers and musicians by reserving the word music for a living individual's creative input, to tie in with the longest form of copyright protection i.e. 70 years after a composer's death. The reason for my suggestion of different labels from an ontological perspective (composer (music) v computer and AI (computer-generated sounds)) relates to the legal reasoning for duration of protection (copyright duration) and because culturally if we use different words/descriptions it is more likely to lead to the two being distinguished. Greater copyright protection of a living composer's music versus lesser protection of AI 100% generated works will rightly be reflected in their exploitation and profitability, motivating composers and software businesses, yet placing a higher value on living individuals' creation.

Lisa Logan, Media lawyer, 2022

²⁵ J. Karanović, 'Free Software and the Politics of Sharing', in *Digital Anthropology*, Edited by Heather A. Horst and Daniel Miller (Berg 2012), 197

²⁶ R. J. Coombe and A. Herman, 'Rhetorical Virtues: Property, Speech, and the Commons on the World-Wide Web' in *Anthropological Quarterly* 2004, 77(3): 559–74.

²⁷ J. Burgess and J. Green, 'YouTube: Online Video and Participatory Culture' (Cambridge: Polity Press 2009), 50.