

Lack of Copyright protection in AI-generated works: a new form of protection.

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This thesis concentrates on the issue of intellectual property protection of works generated by artificial intelligence. The aim is to ascertain that AI-generated works do not currently have intellectual property protection and suggest how this issue can be rectified. This is examined by first concentrating on the lack of human authors in artificially generated works. It is examined if AI can be an author and if the author could be the creator of the AI or the user of the AI. The conclusion is that there is no author in generated works and thus no copyright protection either. Secondly, whether artificially generated works can at all gain copyright protection is examined. This is done by analysing if artificially generated works can reach the threshold of originality. It is deemed they cannot reach it due to the strong requirement of human creativity behind the originality requirement. Due to these two issues, it is clear that a change in intellectual property rights is necessary to protect these generated works. The interest in protecting these works and not just letting them fall into the public domain comes from the need to encourage innovation in the field of artificial intelligence. The possibility of not being able to utilise generative artificial intelligence fully would hinder the financing of research and development of AI. This is why a solution to the issue is proposed in the form of a new neighbouring right to copyright, allowing users of generative artificial intelligence to use the generated works exclusively.

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REFERENCES

LITERATURE REFERENCES

Alén-Savikko, Anette – Ballardini, Rosa – Pihlajarinne, Taina, Tekoälyn tuotokset ja omaperäisyysvaatimus – kohti koneorientoitunutta tekijänoikeutta? *Lakimies* 7–8/2018 s. 975-995

Davies, Gillian, Copyright and the Public Interest, Max Planck Institute for Foreign and International Patent, Copyright and Competition Law, Munich, 1994

van Eechoud, Mireille – Hugenholtz, P. Bernt – van Gompel, Stef – Guibault, Lucie – Helberger, Natali, (EDT) Harmonizing European Copyright Law; The challenges of Better Lawmaking, Kluwe Law International, 2009, Information law series volume 19.

Grace Katja – Salvatier, John – Dafoe, Allan – Zhang, Baobao – Evans, Owain, When Will AI Exceed Human Performance? Evidence from AI Experts, 2018
[<https://arxiv.org/pdf/1705.08807.pdf>]

Guadamuz, Andreas, Can the monkey selfie case teach us anything about copyright law?, *WIPO Magazine* 1/2018
[https://www.wipo.int/wipo_magazine/en/2018/01/article_0007.html]

Harenko, Kristiina – Niiranen, Valtteri – Tarkela, Pekka, Tekijänoikeus, Alma Talent, 2016, 2nd edition

Harenko, Kristiina – Kivistö, Martti – Niiranen, Valtteri – Tarkela, Pekka, Tekijänoikeus, Alma Talent, 2024 3rd edition

Hirvonen, Ari, Mitkä metodit? Opas oikeustieteen metodologiaan, Yleisen oikeustieteen julkaisuja 17 Helsinki, 2011

Hugenholtz, P. Bernt (EDT), Copyright reconstructed; Rethinking Copyrights Economic Rights in a Time of Highly Dynamic Technological and Economic Change, Kluwer Law International, 2018 Information law series volume 41.

Hugenholtz, P. Bernt – Quintas, João Pedro, Copyright and Artificial Creation: Does EU Copyright Law Protect AI-Assisted Output? *IIC- International Review of Intellectual Property and Competition Law* Volume 52, pages 1190–1216, (2021)

Hristov, Kalin, Artificial Intelligence and the Copyright Dilemma, *IDEA: The IP Law Review*, Vol. 57, No. 3, 2017

Härkönen, Heidi, Tekijänoikeus ja käyttötaide: EU-tuomioistuimen c-683/17 Cofemel -ratkaisun vaikutukset suomalaiseen tekijänoikeustraditioon, 2020, *Defensor Legis* N:o 1/2020

Linna, Tuula, Ulosottorealisoinnista De Lege Ferenda, Suomalaisen lakimiesyhdistyksen julkaisuja A-sarja N:o 175, 1987

McCarthy, John, WHAT IS ARTIFICIAL INTELLIGENCE?, Stanford University, 2007

Merilehto Antti, Tekoöly matkaopas johtajalle, Alma Talent, 2018. 2nd edition

Mylly, Ulla-Maija, Tekijänoikeuden omaperäisyyden harmonisointi Euroopan unionissa, Lakimies 6/2016 s. 907–930

Pearlman, Russ, Recognizing Artificial Intelligence (AI) as Authors and Inventors Under U.S. Intellectual Property Law, 24 RICH. J. L. & TECH. no. 2, 2018

Ploman, Edward W. – Hamilton, Clark L., Copyright: Intellectual property in the information age, 1980

Rahmatian, Adreas, Copyright and Artificial Intelligence – Is there Anything New to Say, European intellectual Property Review, Volume 46 1/2024 25-33

Rahmatian, Andreas, Originality in UK Copyright Law: The Old “Skill and Labour” Doctrine Under Pressure, IIC- International Review of Intellectual Property and Competition Law Volume 44 2013 4-34

Rosati, Eleonora, Originality in EU copyright: Full harmonization through Case Law, 2013, Edward Elgar Publishing

Saxena, Bhasvi – Islamia, Jamia Millia, Infopaq International A/S v. Danske Dagblades Forening (Case C-5/08), [2012] BUS LR 102, 2022, CSPIRP

[<https://csriprnurl.wordpress.com/2022/04/13/infopaq-international-a-s-v-danske-dagblades-forening-case-c-5-08-2012-bus-lr-102/>]

Searle, John R., Minds, brains, and programs, 1980, Behavioral and Brain Sciences 3 (3): 417-457

Shlomit, Yansky-Ravid, Generating Rembrandt: Artificial Intelligence, Copyright, and Accountability in the 3A Er Accountability in the 3A Era -The Human-like Authors are Already Here- A New Model, Fordham University, 2017

Synodinou, Tatiana-Eleni, Codification of European Copyright Law; Challenges and Perspectives, Kluwer Law International, 2012, information law series volume 29

Turing, A.M., Computing Machinery and Intelligence, 1950, Mind 49: 433-460

Tzoulia, Eleni – Kalles, Dimitris, AI-Generated Subject Matter in the Light of IP Law: A Sui Generis Protection Regime as the Last Resort, European Intellectual Property Review, Volume 46 3/2024 175-182

WIPO Handbook on Intellectual Property, 2004, WIPO publication,
[<https://tind.wipo.int/record/28661?v=pdf>]

LEGISLATIVE AND LEGAL REFERENCES

Finland

Tekijänoikeuslaki 1961/404, Copyright act, official translation retrieved from https://www.finlex.fi/fi/laki/kaannokset/196states1/en19610404_20231216.pdf

HE 28/2004 vp. Hallituksen esitys Eduskunnalle laeiksi tekijänoikeuslain ja rikoslain 49 luvun muuttamisesta

KM 1953:5 Ehdotus laiksi tekijänoikeudesta kirjallisiin ja taiteellisiin teoksiin.

EU

Council Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs No L 122/42 17.05.1991

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 L130/92 17.05.2019

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 L 167/10 22.6.2001

Directive 2006/116/EC of the European Parliament and of the Council of 12 December 2006 on the term of protection of copyright and certain related rights L372/12 27.12.2006

Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs L111/16, 5.5.2009

Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases L77/20 27.03.1996

European Parliament report on intellectual property rights for the development of artificial intelligence technologies (2020/2015(INI))

Other

EPO, 2020 <https://www.epo.org/en/news-events/news/epo-publishes-grounds-its-decision-refuse-two-patent-applications-naming-machine>

The International Convention for the Protection of Literary and Artistic Works 1886

WIPO 2019, WIPO Conversation on Intellectual Property (IP) and Artificial Intelligence (AI). Second Session. Draft issues paper on intellectual property policy and artificial intelligence. 12/2019. https://www.wipo.int/edocs/mdocs/mdocs/en/wipo_ip_ai_ge_20/wipo_ip_ai_2_ge_20_1.pdf

Zarya of the Dawn letter 2022, Correspondence from lawyer to U.S Copyright Office <https://www.copyright.gov/docs/zarya-of-the-dawn.pdf>

Zarya of the Dawn U.S Copyright Office, 2022, Correspondence from the U.S Copyright Office to the lawyer <https://www.copyright.gov/docs/zarya-of-the-dawn.pdf>

Zarya of the Dawn U.S Copyright Office, 2023, Correspondence from U.S Copyright Office to the lawyer <https://www.copyright.gov/docs/zarya-of-the-dawn.pdf>

CASES

Finland

KKO:2004

EU

C-117/15 Reha Training Gesellschaft für Sport- und Unfallrehabilitation mbH v. Gesellschaft für musikalische Aufführungs- und mechanische Vervielfältigungsrechte eV (GEMA)
ECLI:EU:C:2016:109

C-145/10 Eva-Maria Painer v. Standard VerlagsGmbH and Others ECLI:EU:C:2011:798

C-46/02 Fixtures Marketing Ltd v Oy Veikkaus Ab. EU:C:2004:694 Judgment of the Court (Grand Chamber) of 9 November 2004 ECLI:EU:C:2004:694

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

C-604/10 Football Dataco Ltd and Others v Yahoo! UK Ltd and Others
ECLI:EU:C:2012:115,

C-683/17 Cofemel – Sociedade de Vestuário SA v. G-Star Raw CV ECLI:EU:C:2019:721

Other

Commissioner of Patents v Thaler [2022] FCAFC 62

Thaler v. Commissioner of Patent [2021] FCA 879,

Thaler v. Controller-General of Patents, Designs and Trademarks [2021] EWCA 1374

Thaler v. Commissioner of Patents [2023] NHZC 554

INTERNET REFERENCES

Australian Aboriginal Flag 03.08.2022, read last 4.3.2024.

<https://aiatsis.gov.au/explore/aboriginal-flag>

Customer terms Github Copilot, in force January 2024, read last 20.04.2024

<https://github.com/customer-terms/github-copilot-product-specific-terms>

Guardian, 11.12.2022, read last 23.04.2024

<https://www.theguardian.com/australia-news/2022/dec/12/australian-artists-accuse-popular-ai-imaging-app-of-stealing-content-call-for-stricter-copyright-laws>

IBM

IBM artificial intelligence, read last 28.02.2024.

<https://www.ibm.com/topics/artificial-intelligence>

IBM ML, read last 23.4.2024

<https://www.ibm.com/topics/machine-learning>

IBM ML v. Deep learning v. NN, 06.07.2023, read last 29.03.2024.

<https://www.ibm.com/blog/ai-vs-machine-learning-vs-deep-learning-vs-neural-networks/>

Kela.fi, 1.12.2023, Automaattiset päätökset Kelassa, read last 27.4.2024

<https://www.kela.fi/automaattiset-paatokset>

Merriam Webster, read last

<https://www.merriam-webster.com/dictionary/artificial%20intelligence>

OED

Data, read last 22.4.2024,

https://www.oed.com/dictionary/datum_n?tab=meaning_and_use&tl=true#7471515

Database, read last 22.04.2024,

https://www.oed.com/dictionary/database_n?tab=meaning_and_use#7467065

Statista, 9.2.2024, read last 11.5.2024

<https://www.statista.com/forecasts/1449838/generative-ai-market-size-worldwide>

Summary of Directive 96/9/EC on the legal protection of databases, 11.01.2019, read last 22.4.2024

<https://eur-lex.europa.eu/EN/legal-content/summary/legal-protection-databases.html>

Terms of service ChatGpt, in force since January 2024, read last 20.04.2024

<https://openai.com/policies/terms-of-use> read last 24.11.2023

Terms of Service Jasper, version 4.1

<https://legal.jasper.ai/#terms>

Terms of service Midjourney, in force since June 2023, read last 24.11.2023

<https://docs.midjourney.com/docs/terms-of-service>

terms of service NightCafe, in force December 2023, read last 20.04.2024

<https://nightcafe.studio/policies/terms-of-service>

Tekijänoikeus. fi, read last 04.03.2024

<https://tekijanoikeus.fi/tekijanoikeus/>

Transparency report, 2014, read last 20.04.2024

https://meta.wikimedia.org/wiki/Wikimedia_Foundation_Transparency_Report/2014/Requests_for_Content_Alteration_%26_Takedown

U.S Copyright Office, read last 22.04.2024

<https://www.copyright.gov/fair-use/>

Vero.fi, 18.12.2023, Automaattinen päätöksenteko verotuksessa, read last 27.4.2024

https://www.vero.fi/tietoa-verohallinnosta/verohallinnon_esittely/automaattinen-p%C3%A4%C3%A4t%C3%B6ksenteko/automaattinen-paatoksenteko-verotuksessa/

ABBREVIATIONS

AGI	Artificial General Intelligence
AI	Artificial intelligence
ANI	Artificial Narrow Intelligence
ANN	Artificial Neural Network
ASI	Artificial Super Intelligence
CJEU	European Union Court of Justice
EU	European Union
EPO	European Patent Office
PETA	People for the Ethical Treatment of Animals
WIPO	World Intellectual Property Organisation

1. INTRODUCTION

1.1. TOPIC OF THE THESIS

This thesis will concentrate on copyright ownership of works generated by Artificial Intelligence. The topic has been chosen as generative artificial intelligence is the latest trend and because this issue has not yet had any definitive answers.

Traditional intellectual property laws were designed to protect the creations of human authors. However, the involvement of artificial intelligence in the creative process blurs the lines of authorship and ownership. Exploring how existing copyright laws apply to AI-generated works is crucial for legal clarity and consistency. When artificial intelligence systems autonomously create works without direct human involvement, questions arise regarding whether these artificial works qualify for copyright protection and, if so, who should be considered their author. Central to copyright law is the concept of authorship, which implies human agency and creative input. AI-generated works challenge this notion by raising questions about whether non-human entities can be considered authors and what level of human involvement, if any, is necessary for copyright protection. Ownership of copyright entails exclusive rights to reproduce, distribute, and publicly display the work. Clarifying ownership rights in AI-generated works is essential for determining who has the authority to exploit these rights and derive economic benefits from the artificial works. This includes considering the roles and responsibilities of AI creators, users, and other stakeholders regarding ownership and control of AI-generated creations.

Should the apparent issue with authorship be solved, the next question is whether artificially generated works can obtain copyright protection. Copyright protection is measured with the works showing originality, which has been tied to human creativity. Artificial intelligence challenges the traditional notion of human creativity as the mark of a work. While AI systems can produce novel and unexpected outputs, questions arise as to whether this process constitutes genuine creativity and originality, especially when the outputs are based on pre-existing data or patterns learned from existing works.

Artificial intelligence is not a very new invention, and it has also been utilised for a long time. However, the rapid expansion of the relatively new market of generative artificial intelligence that anyone can use has brought many new problems to the front. Everyone can now use artificial intelligence to assist in everyday things such as translations, grammar corrections, searching information, making images, and many more. The market size of generative artificial intelligence globally was nearly 45 billion U.S. dollars at the end of 2023, and it is expected to double by the end of 2025 to compare the market size of less than 6 billion U.S. dollars in 2020.¹ The generative artificial intelligence market has exponentially grown in merely four years. Such rapid growth in the market has revealed a need to review the copyright ownership of works generated by artificial intelligence, as the owners and users of these artificial intelligence are not always the same people. In the past, artificial intelligence was not so openly usable to the public at large, but it was used mainly by the owners of artificial intelligence. This is why the need to solve these issues has not been as urgent and significant as it is now. For example, intelligent technologies have been used to automatise functions in companies and governments. Even the Finnish government makes millions of automated decisions every year.² These decisions are made by artificial intelligence systems mainly utilised by Kela and Vero.

The rapid rise in artificial intelligence tools has sparked much conversation, and legislators have noted the need for further legislation. The need for new legislation is not limited to copyright. The effect of artificial intelligence in the legal framework is much more significant. Questions from privacy to data protection and all the way to civil and criminal liability have risen. The European Union has started to act upon these issues, and the Artificial Intelligence Act was voted upon in March 2024. The Act is expected to come into force in May 2024 after approval from the European Council. The Artificial Intelligence Act is the first worldwide act on artificial intelligence. The aim is to regulate the development and use of artificial intelligence technologies within the European Union. It proposes rules and requirements for high-risk AI systems, such as those used in critical infrastructure, law enforcement, healthcare, and educational settings. The Act focuses on ensuring transparency, accountability, and the ethical use of artificial intelligence, with provisions covering issues like data quality, human oversight, and risk assessment. Additionally, it includes measures to prevent discrimination and protect fundamental rights in AI

¹ Statista, 2024

² Vero.fi, 2023, Automaattinen päätöksenteko verotuksessa. Kela.fi, 2023, Automaattiset päätökset Kelassa

applications. Overall, the Act seeks to promote innovation while safeguarding individuals and society from potential risks associated with AI technology.

The Regulation will clarify many issues with artificial intelligence. However, it does not offer clarifications on the copyright ownership issues of generative artificial intelligence. The act has provisions regarding intellectual property rights, which address aspects such as data ownership, intellectual property rights infringement, and liability for AI-generated works. However, it does not seem to offer clarifications on the copyright ownership issues of works generated by artificial intelligence.

The issue of copyright ownership in generated works is an important one as it ties into the encouragement of innovation in the artificial intelligence sector. There is currently a gap in the legal framework surrounding artificial intelligence. The possible applications of artificial intelligence make it an extremely valuable source for the advancement of humanity, and thus, it is essential to solve all the legal questions surrounding it. Especially the ones that can have a substantial economic impact. As stated, the market for artificial intelligence is vast, and the European Union has an advantage in the market due to the Artificial Intelligence Act, which clarified the muddy waters of the area. This is why the European Union must keep solving these issues, as it keeps the European Union at the forefront of artificial intelligence developments.

As the copyright ownership of artificial works is one of the issues with artificial intelligence that has not yet been definitively solved, it was chosen to be the topic of this thesis. Research about this topic has been done before, but it is still very much a new topic in need of further exploration, and in this thesis, a new aspect of how to solve this issue is given.

1.2. SCOPE OF THE THESIS

This thesis seeks to answer the complex questions of copyright ownership regarding works generated by artificial intelligence and what type of protection generated works should have if no one owns the copyright. This issue is multifarious and requires an examination of many factors before anything decisive can be said about the topic.

There are many factors that need to be determined to answer these questions. Firstly, how copyright protection is obtained needs to be determined. What are the specific requirements

that must be met for a work to qualify for such protection. This entails exploring the traditional notions of authorship and originality within the framework of copyright law. Secondly, what needs to be determined is who the human author behind works generated by artificial intelligence is and also what the role of artificial intelligence is as the creator of these generated works. This means an examination of human involvement in works generated by artificial intelligence and what level of involvement is necessary so that the human participating in the generative process can be the author of the generated works. If there is even a human author behind the works,

If a human author can be defined, the next question concerns the copyrightability of generated works. The question is whether artificially generated works can have copyright protection at all. To ascertain this, it is necessary to examine the generated works against the copyright originality requirement to see if artificially generated works can reach the threshold of originality that is very much tied to human creativity.

In the case that AI-generated works fail to qualify as copyrightable works under traditional copyright standards, the exploration extends to alternative forms of intellectual property protection that may be applicable to these works.

After all these questions are answered, the question of whether works generated by artificial intelligence should be protected is also raised. What are the reasons for this, and how do they align with the reasons for intellectual property protection in the past? If there is indeed a need for protection, the next step is to ascertain what type of protection it should be. Could copyright be changed to fit artificially generated works?

This thesis will then explore a new neighbouring right as a solution to the problem of artificial works being part of the public domain.

1.3. REFERENCES

The primary references for this thesis are current national and European Union legislation considering copyright. Copyright Act 404/1961 is Finland's main legal instrument. It is also an essential source in this thesis, along with its preparative legislative materials. In the European Union, there are several directives concerning copyright. Many of these are used

in this thesis as well, the most important ones being the Database directive³ and InfoSoc directive⁴, Term directive⁵ and Software directive⁶. The Berne Convention is also used from international legislative sources. All these sources are used to define originality.

Case law has a very important role in defining legal terms. And so is the case with originality in this thesis. From national case law a Supreme Court ruling on originality is used, KKO 2005:43. From the Court of Justice of the European Union many cases that have harmonised the field of copyright are used as sources. *Infopaq* -case⁷, *Painer* -case⁸, *Football Dataco* -case⁹ and *Cofemel* -case¹⁰.

In addition to National and European Union case law, cases from other territories are also used as references. New Zealand, the United Kingdom, Australia and the United States. All of these countries are member states of the Berne Convention. Thus, copyright is somewhat similar in all of these countries, which is why some analogies can be taken from these other territories. All these cases directly involve artificial intelligence, and as there is a lack of cases in Finland, these are used as substitutes to examine the justifications of the legal arguments made in the cases and how they relate to the problems faced in Finland regarding generative artificial intelligence. A decision made by the U.S. copyright office is also used as a reference. This case is directly about the copyrightability of AI-generated work. There is very little case law about the issues this thesis examines, which is why there is a need to look outside of national and European Union case law to understand the issues and the legal arguments better.

As there are very few legislative materials and case law concerning copyright and artificial intelligence, a different source is also used in this thesis. In this thesis, the Terms of service of five different artificial intelligence tools are examined to see how the copyright of AI-

³ Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases L77/20 27.03.1996

⁴ 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 L 167/10 22.6.2001

⁵ Directive 2006/116/EC of the European Parliament and of the Council of 12 December 2006 on the term of protection of copyright and certain related rights L372/12 27.12.2006

⁶ Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs L111/16, 5.5.2009

⁷ C-5/08 *Infopaq International A/S v. Danske Dagblades Forening* ECLI:EU:C:2009:465

⁸ C-145/10 *Eva-Maria Painer v. Standard VerlagsGmbH and Others* ECLI:EU:C:2011:798

⁹ C-604/10 *Football Dataco Ltd and Others v Yahoo! UK Ltd and Others* ECLI:EU:C:2012:115,

¹⁰ C-683/17 *Cofemel – Sociedade de Vestuário SA v. G-Star Raw CV* ECLI:EU:C:2019:721

generated works is seen by the very people who create these artificial intelligence tools. The five chosen AI tools are language models Open AI ChatGpt (ChatGPT) and Jasper, coding tools GitHub Copilot (Copilot), and image design tools Midjourney and NightCafe. All of these artificial intelligences are generative artificial intelligence. Terms of service are not a legal source that can be used to determine any *ratio decidendi*. However, in the absence of legal sources, there is a need to gather as much information about the topic at hand from other sources. These terms of service are mainly used to show that there is no common consensus among the actors in the field of artificial intelligence about copyright ownership. And what options they give on who is considered to be the author of artificially generated works.

While there are many legislative sources and case law concerning copyright, there is not much on the specific issue this thesis concentrates on, which is why legal literature is a major source in this thesis as well. This thesis uses legal literature to argue in favour of and against the opinions stated in this thesis.

1.4. METHOD

In this thesis, both current law is examined and a standpoint for the future is presented. The thesis thus addresses both *de lege lata* and *de lege ferenda* trends.

Current law is interpreted in this thesis through legal dogmatics. The purpose of legal dogmatics is to systematise and interpret jurisprudence.¹¹ The focus of interpretation in this thesis is on national and European Union copyright regulations and case law. The aim of legal dogmatics is to interpret how the copyright concept of originality is understood and how it relates to works created by artificial intelligence. Legal dogmatics is also used to analyse who the human author of artificially generated work is. The information interest thus is practical and involves interpreting the significance and increasing understanding. Analytical legal dogmatics¹² is employed to achieve this information interest. Additionally, teleological legal dogmatics¹³ is utilised to ascertain the purpose of copyright protection.

¹¹ Husa – Mutanen – Pohjolainen 2010, s. 20

¹² Hirvonen, 2010, p. 39

¹³ Hirvonen, 2010, p.40

Legal dogmatics is the primary method used in this thesis, as much of it involves interpreting the existing legal framework surrounding generative artificial intelligence.

De lege ferenda -method can be understood as a continuation of legal dogmatics. Without understanding the current legal framework, suggestions for the future cannot be made. In the de lege ferenda study, the approach is problem-oriented. The suitable ways to solve the problem are surveyed, systemised and justified.¹⁴ Before any of this can be done, the problem with the current legal framework needs to be mapped out. The lege ferenda study will always start with a different method as the first steps of a de lege ferenda study is to ascertain the initial legal situation and the goal of the study.¹⁵ In this thesis, legal dogmatics is used to ascertain the basis of the issue by analysing current laws and how the current intellectual property rights cannot be used as protection for AI-generated works. There is a lot of argumentation made about why copyright protection does not fit artificially generated works. De lege ferenda -method is then used to analyse potential ways to solve the issue by proposing a new form of intellectual property protection for works generated by artificial intelligence and examining the possibility of changing copyright so that it could be used as a protection for artificially generated works. Through the means-goal analysis, this thesis examines the best option for solving the issue of generated works without intellectual property protection. Lastly, the option recommended is justified as to why it is considered the best option to solve the issue. This thesis thus follows the de lege ferenda model that *Linna* formulated in her dissertation.

1.5. STRUCTURE OF THE THESIS

This thesis is divided into seven chapters, each addressing a specific aspect of the complex issue of copyright ownership and protection concerning works generated by artificial intelligence.

¹⁴ *Linna*, 1987, p. 9

¹⁵ *Linna*, 1987, p. 34

Chapter 1 serves as an introduction, providing an overview of the topic, the scope of the thesis, and its structure. Additionally, it outlines the sources and methods utilised to gather relevant information for the study.

The second chapter concentrates on explaining what artificial intelligence is. Artificial intelligence is a broad name for multiple different types of technologies, and as such, it is a complex term to understand. As artificial intelligence is at the centre of this thesis, it is essential that the reader has an understanding of what artificial intelligence is and what type of artificial intelligence is looked upon in this thesis. To be able to understand the problems artificial intelligence causes, it is necessary to understand what it is. For clarity, the chapter is divided into two subchapters.

The third chapter is divided into three subchapters.

Chapter 3.1 briefly discusses the history of copyright and why we now have intellectual property rights. It also explains why we need them, and later, this will tie into why new legislation is needed to solve the problems that artificial intelligence causes.

In Chapter 3.2, originality in the context of copyright is explained. This chapter defines what originality means in International conventions, EU law and Finnish law and where the threshold of originality lies.

In the 3.3 chapter, all the rights belonging to an author are considered. This chapter is further divided into two subchapters: 3.3.2. moral rights, and 3.3.1. economic rights. These rights will be at the centre of the problem presented and part of the new solution given to these problems posed in this thesis.

Chapter 4 concerns the actual issue of authorship in works generated by artificial intelligence. It is further divided into four subchapters.

Chapter 4.1. clarifies non-humans' role in the legal framework of intellectual property. As artificial intelligence is a machine now creating all kinds of works, it is important to understand its role in the legal systems. This is done through analogical analysis of animals and AI in the context of industrial property rights.

Chapter 4.2 examines some of the most popular AI platform terms of service and how copyright ownership is portrayed in them. This examination leaves two possibilities for the author of AI-generated works, the creator of AI, and the user of AI.

Chapter 4.3 argues against the idea that the creator of artificial intelligence could be considered the author of everything it generates.

In chapter 4.4, an argument is made as to why the user of an AI platform cannot be considered the author of a work the AI creates. This is considered through the user's contribution to the work and whether AI can be considered a tool in the creation of copyright-protected works.

Chapter 5 delves into further issues of copyright and artificial intelligence beyond the obvious problem of a lack of human authors.

In 5.1, the originality of AI-generated works is analysed in general. This chapter only discusses whether these generated works reach the threshold of originality regardless of their author. It is argued in this chapter that AI-generated works do not reach the threshold of originality and, therefore, could not obtain copyright protection even if a human author could be found.

Chapter 5.2. examines the *sui generis* protection of databases and their suitability as protection in generative artificial intelligence in place of copyright protection.

Chapter 5.3 binds together what has been said in chapters 4.1-4.5. It makes arguments in favour of all works generated by artificial intelligence not having copyright protection but rather being in the public domain.

Chapter 6 looks forward to this issue.

Chapter 6.1 argues for the need for a new form of protection and considers arguments against a new neighbouring right. This chapter explains the reasons why having some type of intellectual property protection for artificial works is necessary. And why a new neighbouring right is needed instead of changing the copyright to fit AI-generated works.

6.2. Chapter introduces the new neighbouring users' right that is suggested as a solution to the problem of AI-generated work not having any intellectual property protection.

Finally, Chapter 7 provides the conclusions of all the research findings in this thesis and suggests related topics for further research in the ever-evolving field of artificial intelligence.

2. ARTIFICIAL INTELLIGENCE

2.1. DEFINITION OF ARTIFICIAL INTELLIGENCE

Artificial intelligence (AI) is everywhere nowadays, and it is used in everyday functions, from schoolwork to trading to health care. Everyone knows AI as a specific tool they use, like Open AI ChatGPT. AI is everywhere around us; AI-powered marketing algorithms are why you see advertisements for new sneakers when you need them, and it's behind Netflix's recommendations. Artificial intelligence is currently very popular. However, AI is not a new invention; in fact, the term artificial intelligence was first used in 1956 by John McCarthy,¹⁶ and the idea of intelligent machines is as old as ancient Greece¹⁷.

Artificial intelligence in the field of science or technology refers to the development of intelligent systems. This can mean replicating human intelligence, but AI technology is not limited to that.¹⁸

Artificial intelligence does not have one exhaustive definition. IBM defines artificial intelligence as "--technology that enables computers and digital devices to learn, read, write, talk, see, create, play, analyze, make recommendations, and do other things humans do."¹⁹ Merriam Webster Thesaurus defines AI as "the capability of computer systems or algorithms to imitate intelligent human behavior"²⁰. Simply put, AI is a technology that makes computers intelligent enough to imitate humans. This definition invites another question: what intelligence in machines is.

According to McCarthy, "Intelligence is the computational part of the ability to achieve goals in the world. Varying kinds and degrees of intelligence occur in people, many animals, and some machines." In 1950, mathematician A. M. Turing devised a test to answer the question, "Can machines think?" The test is now commonly known as Turing's test. It tests

¹⁶ IBM artificial intelligence, 2024, history of artificial intelligence: key dates and names,

¹⁷ IBM artificial intelligence, 2024, history of artificial intelligence: key dates and names

¹⁸ *McCarthy*, 2007, p. 2

¹⁹ IBM artificial intelligence, 2024, overview,

²⁰ Merriam Webster thesaurus

the machine's capability to mimic human-like conversation, which is thought to be the threshold of human intelligence.²¹

In the test, there are three participants: a human interrogator (judge), a human respondent (foil), and a machine (hidden from the judge). The interrogator communicates with the human and the machine through a text interface without knowing which one is the machine and which one is the human. The interrogator engages in a conversation with the human and the machine, typically through written messages exchanged over a computer interface. The conversation can cover a wide range of topics.²² The objective of the Turing Test is for the machine to generate responses that are so convincing and human-like that the interrogator cannot reliably distinguish between the machine and the human respondent based on the content of their responses alone. If the interrogator cannot consistently differentiate between the machine and the human respondent, then the machine is said to have passed the Turing Test. In other words, it has demonstrated a level of artificial intelligence that is indistinguishable from human intelligence, at least in the context of text-based conversation.

The test is criticised for being unable to capture the true complexity of human intelligence, as human intelligence has many more sides, like emotional intelligence. However, it is still a relevant test to see how intelligent some AI models are.²³

It's important to note that passing the Turing Test does not necessarily mean that a machine possesses accurate human-like intelligence or consciousness. Instead, it demonstrates the machine's ability to simulate human-like behaviour in a specific context. Critics argue that the Turing Test has limitations and does not fully capture the complexity of human

²¹ *Turing*, 1950, p. 1

²² *Turing*, 1950, p. 1

²³ It can now be asked can the AI language models we use today pass the Turing test. According to the AI models themselves they cannot. Chat-GPT's answer was "While I can engage in text-based conversation and generate responses based on patterns learned from vast amounts of data, I am not capable of passing the Turing Test in the sense of fully replicating human intelligence to the extent that a human interrogator couldn't reliably distinguish me from a human. My responses are generated based on algorithms and statistical patterns rather than true understanding or consciousness." But to truly know whether an AI can fool a human interrogator it needs to be put to test. See 6 humans vs 1 secret AI video <https://www.youtube.com/watch?v=bKPP20rvp3s>. Jubilee has performed a sort of a Turing test to ChatGPT in a video of six humans and AI in a group chat where the humans needed to vote out the "impostor". Eventually they did, so this experiment does endorse the AI's own answer, however, it is noteworthy that before the AI was voted out 4 humans had been voted out.

intelligence²⁴. Still, it remains a seminal concept in artificial intelligence and continues to inspire research and debate on the nature of intelligence and consciousness.

Artificial intelligence is an umbrella term for “intelligent” machines. It has many subcategories, and the term is also applied to software that is not very intelligent.

Artificial intelligence can be separated into different types: weak and strong. Weak AI or Narrow AI (ANI) is all the AI tools we now use. Narrow AI is trained to perform specific tasks, such as creating images from user prompts. The artificial intelligence we now have are all ANIs, and they can be called somewhat intelligent; they are capable of doing human-like tasks. However, they are still lacking many aspects of human intelligence. Strong AI is Artificial general intelligence (AGI) or artificial super intelligence (ASI), which are, at the moment, only theoretical possibilities. An AGI is a machine equal to humans in intelligence, and an ASI is a machine that surpasses humans in intelligence. AGI and ASI would theoretically be able to function much like a human brain, a self-aware consciousness capable of thinking, learning, solving problems, et cetera and most importantly, being capable of evolving.²⁵ Best examples for AGIs or ASIs would be from sci-fi, for instance, C-3PO from *Star Wars*, HAL9000 from *Space Odyssey* and Gideon from *Arrowverse*. Although C-3PO is only a language model according to the movies, perhaps ChatGPT is its most accurate counterpart.

Narrow AI, while capable of “learning”, is entirely reliant on its creator and its coding. A strong AI, if ever created, would be more independent. The critical difference is that a Narrow AI cannot learn to do anything outside of what it is coded to do; for example, ChatGPT cannot suddenly start driving a car for you. It can only evolve in the tasks it already performs, like it can better its grammar in other languages. An AGI and an ASI could learn to do different tasks, such as driving a car independently. AGIs and ASIs seem like fantasy; however, AI researchers believe there is a 50% possibility that by 2063, AI will be better

²⁴ See. Searle, 1980, about the Chinese room argument. In the thought experiment there is a person who doesn't understand Chinese inside a room. This person receives Chinese symbols through a slot in the door and has a set of instructions that enable them to manipulate these symbols according to specific rules. The person then sends out responses in Chinese, without understanding the meaning of the symbols. From the outside, it appears as though the person in the room understands Chinese. However, Searle argues that despite the appearance of understanding, the person inside the room doesn't comprehend Chinese. They are simply following a set of rules, akin to how a computer program operates, without any genuine understanding of the language. Mere symbol manipulation, as performed by a computer program, is not sufficient for genuine understanding or consciousness.

²⁵ lähde merilehto kirja kts.IBM AI, 2024, Types of artificial intelligence weak AI v. strong AI

than humans in everything they do and in 120 years, everything that can be automated has been automated²⁶.

Furthermore, AIs can be separated into discriminative and generative AIs. The kind of AI that can sort animals or any other type of data into categories is regular or discriminative artificial intelligence. This thesis does not focus on these AI models. The focus is on generative artificial intelligence. These AIs generate text, images, answers to questions, code, etc. They mimic human creativity. However, how creative they actually are is up for debate²⁷.

Using a generative AI is very simple. You give it a prompt of what you want, such as drawing a cat in a forest. And in a matter of seconds, a picture appears. (Picture 1) The better a person is at giving prompts, the more use they get out of an AI tool. It is possible to get a quality essay written by artificial intelligence; however, it takes talent and effort.



Picture 1. AI-generated image with a prompt of “drawing of a cat in a forest” made by NightCafe.

²⁶ *Grace etc.*, 2018, p. 1

²⁷ See chapter 4.4.

2.2 MACHINE LEARNING, DEEP LEARNING AND ARTIFICIAL NEURAL NETWORKS

Artificial intelligence subcategories are, for example, Machine learning, which uses data and algorithms to enable Artificial Intelligence to mimic how humans learn. So, instead of programming, the system learns from data, experiences, and examples in machine learning. Machine learning will gradually improve the accuracy of the AI. Machine learning is an AI that enables AIs to learn. Machine learning usually depends on human involvement, as humans determine the hierarchy of features to understand the differences between data inputs.²⁸ For example, an AI that is meant to classify animals would be taught by having images of animals, which humans would go through. Then, they would determine the characteristics of each animal and input them. After that, the AI should be able to differentiate between a jaguar and a puma.

Machine learning can be divided into more categories:

1. Supervised learning: The machine learns from labelled data, such as pictures of animals labelled correctly, such as dogs, hyenas, and bats.²⁹
2. Unsupervised Learning: The algorithm learns from unlabelled data in unsupervised learning, where no explicit labels or outcomes are provided. The goal is to discover hidden patterns or structures within the data, such as clusters or associations.³⁰ For example, the machine is given pictures of animals, and it will by itself sort out to birds, dolphins and horses by comparing the data provided and making conclusions on which animals are the same.
3. Semi-supervised Learning: Semi-supervised learning combines both supervised and unsupervised learning elements, where the algorithm learns from a combination of labelled and unlabelled data.³¹

²⁸ IBM ML v. Deep learning v. NN, 2023, What is Machine Learning

²⁹ IBM ML, 2024, Machine learning methods

³⁰ IBM ML, 2024, Machine learning methods

³¹ IBM ML, 2024, Machine learning methods

4. Reinforcement learning means that the AI is shown a series of data, for example, pictures of animals, and through reinforcement, it is told when it correctly identifies a dog or punished when it is incorrect.³²

Machine learning is not the only learning process for artificial intelligence; a newer process is called deep learning or scalable machine learning. In the deep learning process, human intervention is not necessary. The deep learning process can use raw data, data in its original unstructured unlabelled form, and it can automatically determine what category the data belongs to. This, however, requires enormous amounts of data. For deep learning to work, hundreds of thousands of pictures of animals would be needed, and then it would be able to automatically sort them into dogs, giraffes, and platypuses. Machine learning does not require as much data. However, the more data that has been used in teaching AI, the more accurate it is. The advantage of deep learning is that it mainly eliminates the need for human intervention and can use unstructured data, which most are.³³

Artificial neural networks (ANN), as its name suggests, mimic the process of human neurons that work together to identify the problem and make a conclusion. It's a type of machine learning algorithm that is capable of learning from input data, identifying patterns, and making decisions or predictions without being explicitly programmed to do so. Neural networks consist of layers of interconnected nodes or artificial neurons. It has at least three layers: input, hidden, and output. There can be more than one hidden layer. Each neuron receives input signals, processes them using an activation function, and produces an output signal that is transmitted to neurons in the next layer. The strength of connections between neurons, known as weights, is adjusted during the training process to optimise the network's performance. During training, the neural network is presented with a large dataset containing input-output pairs. It learns by adjusting its internal parameters, weights, based on the differences between its predictions and the actual outputs. The network gradually improves its ability to generalise and make accurate predictions on new, unseen data through this iterative process.³⁴

Neural networks can be compared to a team solving a problem. Each team member has a piece of information that they process, and then they pass the information to the next person until they finally solve the problem. They are given many problems and the correct solutions

³² IBM ML, 2024, Machine learning methods

³³ IBM ML v. Deep learning v. NN, 2023, How deep learning differs from machine learning.

³⁴ IBM ML v. Deep learning v. NN, 2023, What is a neural network.

to make the team more efficient. They go through these problems, guessing the answer and seeing if they're right or wrong. When they're wrong, they try to adjust their work together to get a better result next time. After a while, the team gets good at solving problems.

3. COPYRIGHT

3.1. REASONS BEHIND COPYRIGHT

Some traits of copyright can be traced as far back as ancient Greece; however, researchers are not united in their opinions of the origin of copyright. Many think that there could not have been copyright before the means of copying. This would trace the beginning of copyright to the invention of the printing press in Europe in 1436.³⁵ While those who say that the existence of copyright came with copying is a valid point of view, it should be said that copyright is not only protection against copying but a protection of the author's relation to the work. Perhaps these earlier copyright protections were more authors' rights or what we now refer to as moral rights, and the other side of copyright then came into being with the invention of the printing press. After all, literature from ancient Greece that has survived to this day has author's names, which would lead us to believe that the right of paternity or at least some form of it has been in use for thousands of years. So perhaps these earlier forms of copyright protection were more about moral rights.

Following the invention of the printing press in 1436 by Johannes Gutenberg, printing quickly spread far and wide in Europe. Widespread printing of literature also meant the rise of literacy among Europeans as there was much more access to literature among the lower classes. Before the printing press, copying of literature was done by hand, which meant that books were also more expensive and rarer. The invention of the printing press meant the rise of authors who wished to publish their works, however, printing presses were still expensive and thus relatively rare. Printing presses created a new market for publishers. The publishers acquired the rights to print from the authors who wanted their works published. The publishers find a way to gain income in the new market. As quickly as the publishers started to take over this new market, unauthorised printing was revealed to be a problem, and piracy was born. It was easy for anyone to acquire a copy of literature and start printing it by themselves without buying the right from the author. Piracy was a way to make income with less costs. Due to piracy, printers were losing value on the works they had acquired and started to complain to the state.³⁶

³⁵ *Ploman – Hamilton, 1980, p. 5*

³⁶ *Ploman – Hamilton, 1980, p. 9*

The worries of the printers were heard by the states and, together with three other reasons, prompted states to react. The reaction resulted in the invention of printing privilege. The three concerns that the states had were greed, the spread of knowledge and control. Printing privileges meant more possibilities for the states to gain income from their subjects, which is why greed was a motivator. The printing press also allowed for the spreading of knowledge, including propaganda, and having control of what would be printed meant the possibility of stopping the printing and spreading of non-favourable materials. Printing privileges meant a limited monopoly, a publisher was granted privileges for a specific work. The privileges also prohibited others from printing or selling that work.³⁷ While it's debatable whether the printing privileges are the origin of the author's rights³⁸, they definitely are the origin of economic rights. Economic reasons were the leading reasons for giving these privileges, and economic rights were the only ones to have protection. However, it was taken for granted that the author had an explicit right to decide over their unpublished work.

Similarly, the first "modern" laws governing copyright were focused on the economic aspect and only provided protection against piracy. Even the rights of authors were born from economic reasons, such as the author's right to have their work printed in its original form. The reason for this was that different copies of the work would dilute the value of the original one and thus lead to monetary loss.³⁹ The first modern law on author's rights is considered to be the Statute of Queen Anne.⁴⁰ The statute of Anne gave any person a right to acquire copyright and gave authors direct right to spread copies of their work. However, as far as moral rights go, the statute did not touch upon those. It was only about protection against piracy.

From the past, we can see that without privileges, there would have been no reason to print copies as piracy ensured that it would not be economically beneficial to the printers. And if the printers could not get paid, they would not then acquire the rights to literacy. Thus, there would not be widespread literacy, which is beneficial to the people by educating them and the state for economic reasons. Giving an exclusive right to the printers played a significant role in the rapid development of humankind due to the rise in literacy. Similarly, the beginnings of industrial property rights can be traced to reluctance to share inventions in fear of them being stolen. In the international exhibition for inventions in Vienna in 1873, many

³⁷ *Ploman – Hamilton*, 1980, p. 9

³⁸ *Ploman – Hamilton*, 1980, p. 10

³⁹ *Ploman – Hamilton*, 1980, p. 11

⁴⁰ *Ploman – Hamilton*, 1980, p. 12

foreign inventors were reluctant to showcase their inventions due to a lack of legal protection. This led to a special law giving temporary protection to the foreign inventors participating in the exhibition and to the Congress of Vienna Patent reform.⁴¹

The reasons behind copyright protection can be divided into four principles: Natural Law, just reward for labour, a stimulus to creativity and social requirements⁴². These principles can be found in the story of printing privileges. The author deserves a reward for the time and effort put into the work, and giving a just reward encourages them to create more, thus providing a stimulus. In the case of printing privileges, the protection against copying meant being able to make money out of the investment of obtaining rights to literature, which meant that the printers would obtain rights to more literature, thus incentivising authors to write more. The social requirement of copyright dictates that it is in the public interest to disseminate works as much to the public as possible since this contributes to the advancements of society, as seen in the case of printing privileges as the rise of literacy⁴³. The first principle of natural law means that the rights of the author over their work are inherent. The author should have control over the publication and modifications of their work⁴⁴. In the time of printing privileges, only an author could sell their work to a printer, but other than that, the authors did not have any rights.

These are the reasons why we now have intellectual property rights. Without them, the creators and inventors would not be incentivised to share their works with the public. And if these creations were not shared, society could not evolve the way it has. For example, industrialisation would not have been possible without industrial property rights, and as stated before, printers' rights were behind the rapid rise of literacy in Europe.

⁴¹ WIPO Handbook, 2004, p.241

⁴² *Davies*, 1994, p. 10

⁴³ *Davies*, 1994, p. 12

⁴⁴ *Davies*, 1994, p. 10

3.2. COPYRIGHT AND THE THRESHOLD OF ORIGINALITY AS ITS MEASURE

Copyright is the author's exclusive right to decide on the use of their work. In Finland, copyright protection lasts 70 years after the author's death. Copyright protects only the creation itself, not the idea or the method of making it. This means that another person is free to write a book about magical schools and good and evil even though J.K. Rowling already has written a book series about the topic, and anyone can use oil paints and canvases. Unlike other intellectual property rights, copyright does not need to be registered. Instead, copyright arises at the moment of creation of the work. Works protected by copyright can be anything from photographs to buildings. In this thesis, the works described are mainly pictures and different texts.⁴⁵

While copyright works can be almost any creation, not everything humans create has copyright protection. For a work to be protected by copyright, it must meet specific criteria. It needs to reach the threshold of originality (*teoskynnys*)⁴⁶, which means that the work must be sufficiently independent and original intellectual creation⁴⁷. The word originality refers to the work's need to reflect the author's personality somehow, and not that the creation needs to be original in the sense of never having existed before.

The threshold of originality is the measure to decide whether something is protected by copyright. The amount of effort and time put into creating the work is meaningless. However, the effort put into the work is not meaningless in common-law countries. The sweat of the brow -doctrine claims that hard work should be enough to gain copyright protection. The United Kingdom uses a modified version of the doctrine to determine copyright. The skill and labour standard where copyright protection is on the works that show sufficient skill, labour, and effort⁴⁸. Despite the Common law countries having a more economical approach to copyright protection, the United States Supreme Court rejected the sweat of the brow -doctrine. The court reasoned that no amount of hard work could erase the need for the work to show originality.⁴⁹ The quality of the work is also trivial in obtaining

⁴⁵ tekijänoikeus netti sivu 4.3.2024

⁴⁶ *Harenko – Niiranen – Tarkela*, 2016, p. 17

⁴⁷ tekijänoikeus netti sivu.4.3.2024

⁴⁸ *Rahmatian*, 2013, p. 9

⁴⁹ *Feist Publications Inc v. Rural Telephone Service Co*, 1991. As a case from the United States it has no bearing on the Finnish copyright law, however, it is interesting to see that originality is the deciding factor in copyright everywhere.

copyright protection, which means that a novel that took a year to complete and a cat drawing done in a minute are both protected as long as they show originality. Even if the drawing barely resembles a cat.

The originality requirement was first introduced in the International Convention for the Protection of Literary and Artistic Works in 1886, also known as the Berne Convention. The Berne Convention speaks of protection offered to original works⁵⁰. However, originality is not defined any further in the convention. It only provides a non-exhaustible list of examples. The Berne Convention only refers to originality as intellectual creation. As the Berne Convention sets the minimum standard of protection, it is unnecessary to define originality any further in it.⁵¹

There is, however, a need to define originality in European Union law. The earliest provisions that seek to define originality were in the Software Directive 2009/24/EC⁵² (originally Directive 91/250/EEC⁵³) Article 1(3): “A computer program shall be protected if it is original in the sense that it is the author's own intellectual creation. No other criteria shall be applied to determine its eligibility for protection.” The Database Directive 96/9/EC⁵⁴ has the same definition in Article 3(1): “In accordance with this Directive, databases which, by reason of the selection or arrangement of their contents, constitute the author's own intellectual creation shall be protected as such by copyright. No other criteria shall be applied to determine their eligibility for that protection.”. The harmonisation of the threshold of originality with software and databases was necessary to bring unified criteria between the *droit d'auteur*⁵⁵ member states and common law member states. According to the Commission, the difference in criteria between the member states hindered the free movement of database products in the single market.⁵⁶

⁵⁰ Article 2(3) and 14bis

⁵¹ *van Eechoud etc.*, 2009, p. 40

⁵² Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs L111/16, 5.5.2009

⁵³ Council Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs No L 122/42 17.05.1991

⁵⁴ Directive 96/9/EC of The European Parliament and of The Council of 11 March 1996 on the legal protection of databases

⁵⁵ “author’s rights” is the French Copyright protection model characterised by the dual nature of economic and moral rights. Finland is a *droit d'auteur* member state. European Parliamentary Research Service Study on Copyright Law in the EU.

⁵⁶ *Rosati*, 2013, p. 66-67

A more comprehensive definition was given in the Term Directive 2006/116/EC⁵⁷ Article 6: “A photographic work within the meaning of the Berne Convention is to be considered original if it is the author's own intellectual creation reflecting his personality, no other criteria such as merit or purpose being taken into account.” *Reflecting his personality* has been added to the definition, which means that not only does the work need to be an intellectual creation, but it also needs to show the personality of its author. It has to be uniquely the author's work in a way that reflects the author themselves. The criteria given to photographs seem to be stricter than the ones given to software and databases in these directives. Considering the differences between software and photographs, it is not odd to assume that these works have two different criteria for originality. Software is not the type of work that can easily reflect personality. However, a photograph shows this through the choices made by the photographer, angle, lighting, and composition of the photo. Additionally, the stricter criteria given to photographs were meant to differentiate between simple photographs and photographs that are copyright-protected.

The threshold of originality has been defined in Finland as well. The threshold of originality is not mentioned by name in the copyright act; section 1 states only that “A person who has created a literary or artistic work shall have copyright therein.” The Committee preparing the legislation did take this Section to mean that copyright can only be applied to independent and original creations due to the use of words create (luonut) and work (teos) in the section. The Committee also stated that while determining copyright protection will be on a case-by-case basis, taking into consideration all the facts of the situation, the work must always be new and original (omaperäinen).⁵⁸ This means that originality is the deciding factor of whether something is protected by copyright or not.

The Court of Justice of the European Union (CJEU) has also clarified the criteria and its harmonisation in the European Union. The *Infopaq* -case⁵⁹ is arguably the most important case in harmonising European Copyright law. *Infopaq International A/S (Infopaq) v. Danske Dagblades Forening (DFF)* dealt with whether the temporary reproduction of copyright-protected newspaper articles by an automated process of scanning, conversion to digital format, and electronic processing of the resulting files constituted copyright infringement

⁵⁷ Directive 2006/116/EC of the European Parliament and of the Council of 12 December 2006 on the term of protection of copyright and certain related rights L372/12 27.12.2006

⁵⁸ KM:1953:5 p. 44

⁵⁹ C-5/08 *Infopaq International A/S v. Danske Dagblades Forening* ECLI:EU:C:2009:465

under EU law. CJEU ruled that even small portions of text could be protected by copyright if they contained original elements and were the author's own intellectual creation.

The court managed to fully harmonise the originality requirement at the EU level in three steps. Firstly, the court stated that Article 2(a) InfoSoc Directive⁶⁰ “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, in whole or in part: (a) for authors, of their works”⁶¹ stands. Secondly, the court defined what work refers to. To do this, the court stated that “-- the protection of certain subject-matters as artistic or literary works presupposes that they are intellectual creations.”⁶² so, to qualify as a work, it must reflect the author’s own intellectual effort. In reverse, if it is the author’s own intellectual creation, it is a work. Thirdly, the court decided that the standard of originality given in the Software Directive, the Database Directive, and the Term Directive applied in this case as well to ensure harmonisation and coherence in applying copyright law within the EU. The CJEU created the European standard for copyright protection, which consists of criteria of originality: the author’s own intellectual creation.

As the *Infopaq* -case considers copyright in automated systems, it is very relevant to the problems of artificial intelligence and copyright. However, some experts have felt that it fails to clearly establish the law concerning copyright and artificial intelligence due to the changes in copyright law and the advancement of technology.⁶³

The CJEU further defined how a work can reflect the author’s personality in the *Football Dataco*⁶⁴- case and *Painer* -case⁶⁵. Eva-Maria Painer, an Austrian photographer, filed a lawsuit against Standard VerlagsGmbH and other defendants for copyright infringement. Painer claimed that her photographs had been published without her permission in a schoolbook and on a website operated by the Austrian government. The issue in this case was whether photographs could be protected by copyright as "works" under EU law. The CJEU stated that “-- such photograph is an intellectual creation of the author reflecting his personality and expressing his free and creative choices in the production of that

⁶⁰ 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 L 167/10 22.6.2001

⁶¹ C-5/08 *Infopaq International A/S v. Danske Dagblades Forening* ECLI:EU:C:2009:465, paragraph 9

⁶² C-5/08 *Infopaq International A/S v. Danske Dagblades Forening* ECLI:EU:C:2009:465, paragraph 34

⁶³ *Saxena – Islamia*, 2022, conclusion and critical analysis

⁶⁴ C-604/10 *Football Dataco Ltd and Others v. Yahoo! UK Ltd and Others*, ECLI:EU:C:2012:115

⁶⁵ C-145/10 *Eva-Maria Painer v. Standard VerlagsGmbH and Others* ECLI:EU:C:2011:798

photograph.”⁶⁶ The ability to make free and creative choices in the production of the work is what matters when deciding on originality. In *the football Dataco -case*, the Court expanded on the criteria of free and creative choices: "By contrast, that criterion is not satisfied when the setting up of the database is dictated by technical considerations, rules or constraints which leave no room for creative freedom.”⁶⁷ This means that the author must have true freedom to make choices for their work to be original.

The *Cofemel -case*⁶⁸ was also a landmark case in EU copyright. The case was a copyright infringement dispute, where a Portuguese clothing manufacturer claimed that a Dutch fashion company had copied their designs. The Portuguese court sought a ruling from the CJEU on whether the clothing patterns were protected by copyright. The case's legal question was whether member states could use a different standard for copyright protection for applied art and pure art. Portugal's national legislation gave applied art an added criterion of having to be aesthetically pleasing on top of originality.⁶⁹ The CJEU stated that the added criteria were against the InfoSoc -directive article 2(a).⁷⁰ The CJEU also stated that when something is a work in the sense that it is the author's own intellectual creation, the same requirement to decide if it is copyright protected needs to be used. This criterion is originality, and no other criteria can be used.⁷¹ The *Cofemel -case* is an important case as it clearly defines that anything that is considered a work is subjected to the same criteria. This further harmonises the originality criteria in EU law. The *Cofemel -case* could be a very important case in setting a precedent for artificially generated works in the future.

The threshold of originality as a term is not used in legislation but has been used in case law in Finland. The Supreme Court of Finland decided on the case KKO 2005:43, where the threshold is.

The case was about a copyright infringement on communicating to the public glossaries in elementary school textbooks by making copies to a disc from the original glossaries. The court needed to decide whether glossaries in a textbook are original and, subsequently, whether they are protected by

⁶⁶ C-145/10 *Eva-Maria Painer v. Standard VerlagsGmbH and Others* ECLI:EU:C:2011:798, paragraph 99

⁶⁷ C-604/10 *Football Dataco Ltd and Others v. Yahoo! UK Ltd and Others*, ECLI:EU:C:2012:115, paragraph 39

⁶⁸ *Cofemel* C-683/17 *Cofemel – Sociedade de Vestuário SA v. G-Star Raw CV* ECLI:EU:C:2019:721

⁶⁹ C-683/17 *Cofemel – Sociedade de Vestuário SA v. G-Star Raw CV* ECLI:EU:C:2019:721, paragraph 15

⁷⁰ C-683/17 *Cofemel – Sociedade de Vestuário SA v. G-Star Raw CV* ECLI:EU:C:2019:721, paragraph 53

⁷¹ C-683/17 *Cofemel – Sociedade de Vestuário SA v. G-Star Raw CV* ECLI:EU:C:2019:721, paragraphs 29-31

copyright. The court had to consider if a glossary meets the threshold of originality. Generally, a glossary is a list of words that does not usually show originality. In this case, however, the court decided that the glossaries in question were indeed original as they form a cohesive learning experience together with the texts in the textbooks, and thus, no one else could have created the same glossaries as the authors had. The authors had to choose what words to show at what stage of the textbook to ensure an efficient learning experience.

In the case, the Court decided on the matter by applying a test of whether another person could have arrived at the same end product with the same premise. This is a common test used in Finland to determine if a work reaches the threshold of originality. For example, a phonebook could not pass this test as a phonebook is merely a catalogue of numbers in alphabetical order anyone would make the same way.

Originality is a requirement for copyright worldwide, not just in the EU, as can be seen from the above U.S. case. However, the threshold varies from country to country. For example, in Australia, the threshold has sometimes been seen as very low. The Australian Aboriginal flag (picture 2) has copyright protection despite the straightforward design. Harold Thomas created the flag, and the Federal Court of Australia upheld his copyright claim to the flag. Thomas has since transferred his rights to the commonwealth but still retains the moral rights over the flag⁷². The flag is very simple and would probably not meet the threshold of originality in Finland, as the test of whether another person could create the same outcome when creating a flag tells us that another person could end up with the same result.

⁷² Australian aboriginal flag, 2022



Picture 3: The Aboriginal Flag designed by Harold Thomas.

Originality is the author's own intellectual creation that shows their personality through free and creative choices. Originality means that no one else could have created the same work as the author did if another person started to make a corresponding work. It means that the work is distinctive⁷³. For example, two painters painting the night sky can be very different from each other, and both reflect the personalities of their respective painters. Thus, both paintings would be protected by copyright irrespective of each other.

3.3. RIGHTS OF A COPYRIGHT OWNER

3.3.1. ECONOMIC RIGHTS

Economic rights are the author's exclusive right to decide on all usage of the work that has economic significance. They are listed in the Copyright Act 2§.

According to Section 2, economic rights grant the author "exclusive rights" to determine the work's use. The legislation is based on the premise that the copyright holder has the exclusive right to determine how the work protected by copyright is used.

The legislative implementation of copyright as exclusive rights is based on the provisions of the Berne Convention⁷⁴ and other international agreements concerning copyright. They require that copyright be regulated as an exclusive right. Formulating the author's economic

⁷³ *Harenko – Niiranen – Tarkela*, 2016, p. 17

⁷⁴ Articles 3, 8, 9, 11, 11*bis*, 11*ter*, 12, 13, and 14

rights, for example, as merely a retrospective right to demand compensation for past infringements would not align with international agreements binding Finland, as it would limit the scope of the right from the fundamental principle of the author's exclusive control.⁷⁵ Being an exclusive right means that copyright is also a preventive right. This has been confirmed in CJEU case law in *Reha training* -case⁷⁶ and *Renckhoff* -case⁷⁷ “Under Article 3(1) of Directive 2001/29, authors have a right which is preventive in nature and allows them to intervene, between possible users of their work and the communication to the public which such users might contemplate making, to prohibit such use”⁷⁸ While copyright is an exclusive right it is not an absolute right, the extent of copyright protection is usually seen through the limitations to copyright. Sometimes, it is necessary to interpret the extent, for example, in situations where the usage of the work has been within the scope of legal use.⁷⁹

The reproduction of copies is an essential element of economic rights. A copy of a work is created when the work is expressed and when it is attached to some medium (paper, fabric, digital storage medium, etc.) in a way that allows the work to be reproduced from the medium, such as by copying it to another storage medium, for example, making a look-alike painting on canvas from tracing it from the original work. The work can exist without a copy, for instance, in the author's mind or as an oral presentation. Creating a physical, tangible copy is not a requirement for obtaining protection under the law. In practice, the creation of a copy is a fundamental requirement for the commercial and other uses of the work, as it involves the reproduction of the abstract "work" in a form that can be perceived by human senses and made the subject of controlled exchange.⁸⁰

In addition to the reproduction copies, the right to make the work available to the public constitutes another vital part of the author's economic rights. The purpose of this right is to grant the author the exclusive right to determine how their work can be brought to the market for exchange or otherwise made available to the public for listening, viewing, or

⁷⁵ *Harenko etc.*, 2024, p. 34

⁷⁶ C-117/15 *Reha Training Gesellschaft für Sport- und Unfallrehabilitation mbH v. Gesellschaft für musikalische Aufführungs- und mechanische Vervielfältigungsrechte eV (GEMA)* ECLI:EU:C:2016:109

⁷⁷ c-161/17 *Land Nordrhein-Westfalen v. Dirk Renckhoff* ECLI:EU:C:2018:634

⁷⁸ C-117/15 *Reha Training Gesellschaft für Sport- und Unfallrehabilitation mbH v. Gesellschaft für musikalische Aufführungs- und mechanische Vervielfältigungsrechte eV (GEMA)* ECLI:EU:C:2016:109, paragraph 30

⁷⁹ *Harenko etc.*, 2024, p. 38

⁸⁰ *Harenko etc.*, 2024, p. 44

experiencing.⁸¹ The exclusivity of the right only considers public usage, and the private use of a work does not infringe on economic rights. For example, listening to music at home is not making a work public and thus not an infringement. The term public has not been clearly defined in the law, however, in case law and legal literature, it is said that the use is directed to the public in situations where the group of people the work is disseminated to is not individually determined in advance. This is considered an open circle instead of a closed circle referenced in Section 2 Subsection 4.⁸²

The right to make a work available to the public, as defined in the first subparagraph of the third paragraph, includes all forms of use of the work in which the point of transmission or communication and the members of the public are separated by distance.⁸³ How the work is transmitted from one place to another is irrelevant to the application of the law. The phrase "by wire or wireless" encompasses the idea that transmission can occur, for example, via cables or radio waves or by utilising wired or wireless network connections. The right to communicate to the public is independent of the technology used. The crucial factor is only the geographical distance between the audience and the transmission or performance location of the work.⁸⁴ The right to communicate to the public is not exhausted or consumed when the work is communicated to the public⁸⁵, so disseminating a work to the public after its communication to the public, with or without permission, would be its own infringement of economic rights if done without the permission from the author.

Subsection 3, paragraph 1, covers communication to the public with geographical distance. Subsection 3, paragraph 2 covers communication with the public during a performance event for the audience present. Performance can take place in any manner. It is not limited to, for example, live performances. Public performance also occurs when a work is made visible or audible to a present audience through a recording.⁸⁶ Only public performances fall within the scope of the author's exclusive rights. A performance is considered public if its audience is the public. A performance is public if its audience has not been individually determined in advance, an open circle. If the circle is not open, it is closed. A performance for a closed

⁸¹ *Harenko etc.*, 2024, p. 51

⁸² *Harenko etc.*, 2024, p. 52

⁸³ *Harenko etc.*, 2024, p. 53

⁸⁴ *Harenko etc.*, 2024, p. 56

⁸⁵ *Harenko etc.*, 2024, p. 59

⁸⁶ *Harenko etc.*, 2024, p. 83

circle is not considered a public performance and does not fall within the author's exclusive rights unless the circle is broad.^{87 88}

The right to distribute copies of the work to the public, i.e., the distribution right, is also an exclusive right of the author. The distribution right can only apply to tangible, physical copies of the work, such as books, CDs, or paintings. For example, the distribution of digital content over computer networks is not considered distribution as meant in the copyright act subsection 3 paragraph 3. Distribution is also the act of offering a copy to the public, so to infringe on this right, it is not necessary to actually distribute the copy to the public. The act of offering it is already an infringement itself.⁸⁹

The right to display applies to all types of works that can be displayed and for which display is meaningful. The first requirement is that the display must take place without technical aids.⁹⁰ For this to happen, the physical copy of the work must be visible to the audience. According to the legislators, “ Display refers to the immediate presentation of the physical appearance of the work.”⁹¹ In practice, various works of visual art, such as photographs and paintings, maps, explanatory drawings, and products of arts and crafts and industrial arts, are most often displayed. A technical aid is a tool that allows a picture of a copy of the work to be seen but not the "actual" original work.⁹² For example, the Mona Lisa projected onto a wall for all to see would be through technological aids and would not be considered displaying. When the image is made available to the present audience through the aid, it constitutes a public performance of the work. If, on the other hand, the aid is used to view the physical original work, it is a display. For example, when viewing an artwork through an optical lens that changes its shape or colour. Only display directed at the public falls within the scope of the author's exclusive rights. The publicity of the display is assessed according to the same criteria as the publicity of performance and the orientation of making it available to the public.⁹³

Exclusive rights mean that the author can decide whether the work is used in the ways referred to in Section 2 of the law and how it is used. For example, the author can choose to

⁸⁷ *Harenko etc.*, 2024, p. 84

⁸⁸ See cases KKO 1998:155, KKO 2002:101, KKO 2002:48, KKO 2002:20, on open circle, the definition of public.

⁸⁹ *Harenko etc.*, 2024, p. 86-87

⁹⁰ *Harenko etc.*, 2024, p. 92

⁹¹ HE 28/2004, p. 79. Original Finnish version:” Näyttämisellä tarkoitetaan teoksen ulkomuodon välitöntä näyttämistä.”

⁹² *Harenko etc.*, 2024, p. 93

⁹³ *Harenko etc.*, 2024, p. 93

waive their rights altogether or grant limited usage rights through agreements. Exclusive rights ensure the author a strong negotiating position in all cases where statutory limitations do not restrict the right. It is often a practice to give economic rights to a company that will govern them and protect the author against infringements. For example, most book author sell their economic rights to publishing companies for royalties. On the other hand, exclusive rights mean that the author can exclude others from using the work. In doing so, they can rely on the legal consequences system the law provides and other legal remedies. These may include measures to secure evidence, injunctions, criminal and civil litigation procedures, enforcement proceedings and other forms of execution.

No one can use the work without permission from the author. However, no right can be completely limitless. Limitations to copyright are covered in the Copyright Act chapter 2. Copyright has limitations such as:

1. temporary reproduction;
2. reproduction for private use;
3. using the work in parodies;
4. quotations;
5. text and data mining.

There are more limitations,⁹⁴ and these listed ones have some exceptions for the topic at hand. It is only noteworthy that these restrictions exist. Copyright is also restricted in other territories. In the USA, the fair use doctrine⁹⁵ covers the legal use of copyright-protected works.

Economic rights can be entirely waived, so they do not pose the same kind of problems as moral rights in AI-generated works. It could be easily determined that the user or the owner of the AI tool had the economic rights to the AI-generated works, irrespective of who the

⁹⁴ The Copyright Act Chapter 2 has 50 sections, which all are some type of limitation to the right.

⁹⁵ The fair use doctrine is a legal principle that allows for the limited use of copyrighted material without the permission of the copyright owner. It allows for the balance between the rights of copyright owners and the public's interest in accessing and using copyrighted works for purposes such as criticism, commentary, news reporting, teaching, scholarship, and research. The fair use doctrine provides a set of guidelines to determine whether a particular use of copyrighted material qualifies as fair use. These guidelines typically consider factors such as: (1)The purpose and character of the use. (2)The nature of the copyrighted work. (3)The amount and substantiality of the portion used. (4)The effect of the use on the potential market for the copyrighted work. U.S copyright office, 2023, fair use <https://www.copyright.gov/fair-use/>

author really is. This could be very similar to how companies automatically gain the economic right to their employees' work products. It is not even really necessary to establish who the author is to solve the issues with economic rights.

3.3.2. MORAL RIGHTS, AUTHORS RIGHTS

Moral rights protect the author's relation to the work⁹⁶. Moral rights are listed in the Copyright Act Section 3.

Section 3 of the act distinguishes two rights: the right of paternity (*isyysöikeus*, *droit a la paternite*) and the right of integrity (*respektioikeus*, *droit au respect*).

The right of paternity requires that the author must be named in a manner required by proper usage. This obligation to name the author is not absolute but tied to the proper practices of each individual field. For example, authors are usually not named in connection with computer programmes. This does not infringe on the moral rights unless specifically agreed otherwise, as in computer programmes, the emphasis is on the economic side and the significance of the party responsible for the production of the software. It is also not customary to name the creators of advertisements or the photographers and authors responsible for creating the company's website.⁹⁷

The method of mentioning the author's name varies according to the type of work and usage. In literary works and recordings, authors are listed on the cover of the book or recording and in films and television programs, usually in the credits. Authors may be mentioned before or after the performance when presenting musical compositions in radio or television broadcasts. However, authors are not always mentioned. In streaming services, information about works and artists may be available in the menu or search, but author information may be missing or more challenging to find. The name of the author of consumer products may be mentioned on the packaging.⁹⁸

⁹⁶ *Harenko – Niiranen – Tarkela*, 2016, p. 2

⁹⁷ *Harenko etc.*, 2024, p. 97

⁹⁸ *Harenko etc.*, 2024, p. 97–98

Mentioning the author's name creates a presumption of authorship, according to Section 7 of the Copyright Act.

The person whose name or generally known pseudonym or pen name is indicated in the usual manner on the copies of a work or when the work is made available to the public, shall be deemed to be the author, unless otherwise demonstrated.

However, the presumption does not create a right to the work. The actual author of the work may present evidence of their ownership of the copyright and demand recognition of their authorship.⁹⁹

Infringement of the right of paternity occurs when the author's name is omitted in a situation where good practice would require its mention unless the author has requested not to be mentioned or when the work is publicised or published under someone else's name against the author's will, or when the author's name is disclosed in a form other than the one requested by the author, for example, if the work is not published under the pseudonym requested by the author, or if the author's name is stated incorrectly.¹⁰⁰

The right of integrity forbids the modification of the work in a manner that violates the artistic value or uniqueness of the author in a disrespectful manner. The reason for these rights is to protect the author's personality and integrity. It aims to prohibit the kind of modifications that would disrespectfully alter the work or erase the author's personality. Otherwise, modifications of the work fall under economic rights.¹⁰¹ Only outrageous modifications infringe on moral rights. According to the copyright committee part of preparing the law "[i]t is clear that minor changes generally cannot be considered to violate the author's *droit morale*, and the protective provision in question primarily refers to grossly qualitative modifications, vandalism, abridgement, and similar actions."¹⁰²

The infringement of the right to integrity can occur in two ways, modifying the work in an offensive way and using the work in an offensive context for the author.¹⁰³ For example, using a piece of classical music in pornography can be considered offensive use and an

⁹⁹ *Harenko etc.*, 2024, p. 99

¹⁰⁰ *Harenko etc.*, 2024, p. 99

¹⁰¹ *Harenko etc.*, 2024, p. 101

¹⁰² KM 1953:5, p. 49. Original Finnish version "[s]elvää on, että vähäpätöisten muutosten yleensä ei voida katsoa loukkaavan tekijän *droit moralia*, vaan tarkoittaa kysymyksessä oleva suojasääntö lähinnä törkeän laatuista muuttamista, vandalisointia, typistämistä ja muuta sellaista."

¹⁰³ *Harenko etc.*, 2024, p. 102

infringement of moral rights. Also, using a work in a political context to further, for example, an anti-immigrant agenda could be an infringement.

Whether an infringement has occurred or not is assessed objectively, considering the nature of the work, the ideology and intentions expressed by the author in the work, and the customary use and context of the work.¹⁰⁴

Moral rights are based on the Berne Convention 1886 article 6*bis*. According to the 6*bis* article

(1) Independently of the author's economic rights, and even after the transfer of the said rights, the author shall have the right to claim authorship of the work and to object to any distortion, mutilation or other modification of, or other derogatory action in relation to, the said work, which would be prejudicial to his honor or reputation.

The Bern Convention 6*bis* Article also states that moral rights shall be maintained for at least as long as economic rights after the author's death.

Because moral rights are linked to respecting the author's personality, they usually cannot be waived or only limitedly waived. In subsection 3 of Section 3, it is stated that the author can only waive moral rights in the case that the use of the work is limited in character and context. An author cannot effectively waive their moral rights in connection with a complete transfer of rights. A complete transfer refers to the transfer of rights that is unlimited in terms of time and scope. In situations where the manner and context of the use of the work are precisely defined in advance, the author can effectively waive the right to appeal to their moral rights regarding such use. Limited transfer may occur, for example, when permission is granted to use a musical piece in an advertisement for a specific product.¹⁰⁵ Thus, if an author posts their work and adds a note to it saying that they claim no rights to it, it is not a valid contract between the author and the person who then uses it without naming the author unless the usage can be precisely defined in advance. The author can always insist on their right of paternity later.

¹⁰⁴ Harenko etc., 2024, p. 103

¹⁰⁵ Harenko etc., 2024, p. 106

Moral rights are directly bound to the human behind the work and, as stated above, cannot be entirely waived or otherwise abolished. Thus, they complicate the landscape of copyright in AI-created works. In an AI-created work, it is not straightforward to determine who the author is, and it is hard to decide who the moral rights belong to.¹⁰⁶

¹⁰⁶ AIs and moral rights also come into collision course on training data and the outputs created mimicking training data. Usually, permissions are not asked about usage of training data, which can cause multiple copyright infringements. AIs may recreate works that have parts of their original training data that can infringe on moral rights. Not only on the right of paternity, but also the new creations that are based on copyright protected works can be considered outrageously modified works that infringe on the right of respect.

4. AUTHORSHIP OF AI-GENERATED WORKS

4.1. NON-HUMANS AND COPYRIGHT

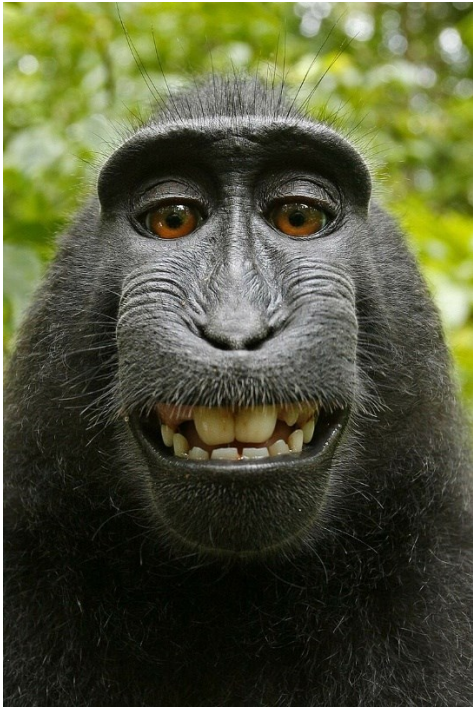
Copyright, like all other rights, is very connected to natural persons. A human author is necessary as moral rights cannot be separated from the author, and no one other than a human can possess moral rights. However, the topic of this thesis means that a review of non-humans' role in copyright is in order. There is no direct case to review. However, there is a famous American case about copyright ownership of animals that can be used in this context. Animals and machines are both non-humans and have a very similar place in the legal frame, which means that case analyses about animals can be used analogically. There is also a patent application, where an AI was listed as an inventor that has been decided upon in many territories, that can be used as another analogical reference.

In 2011, a British photographer, David Slater, was travelling in Indonesia photographing capuchin monkeys when he left his camera on a tripod for the curious monkeys to examine. One of the monkeys, later named Naruto, took many photos of itself, now called the famous monkey selfies (picture 3). After publishing the photo, Slater took the credit for it and claimed copyright to it. His rationale was that even though he did not physically press the button, he set up the situation and trained the monkey to press the shutter button. In 2015, the campaign group People for the Ethical Treatment of Animals (PETA), an American animal rights organisation, sued Slater, claiming that the copyright of the photo belonged to the monkey, Naruto. They claimed that the photo “resulted from a series of purposeful and voluntary actions by Naruto, unaided by Mr. Slater, resulting in original works of authorship not by Mr. Slater, but by Naruto.”¹⁰⁷

Mr Slater and PETA went to fight this matter in the courts. In January 2016, the trial judge dismissed the suit as even if Naruto had taken the pictures by “independent, autonomous action,” the suit could not continue as animals do not have standing in a court of law and therefore cannot sue for copyright infringement. PETA appealed the dismissal in the Court of Appeals of the 9th Circuit. However, as the parties reached a settlement out of court the case was never discussed in the court.¹⁰⁸

¹⁰⁷ Guadamuz, 2018

¹⁰⁸ Guadamuz, 2018



Picture 3

The Monkey Selfie taken by Naruto.

In the monkey selfie case, Mr. Slater was also in a dispute with Wikipedia for years about copyright issues. Wikipedia was adamant that the photo was in the public domain due to the fact that the photo had been taken by an animal and not by Mr Slater. Wikimedia defended its decision to keep the monkey selfie in their transparency report of 2014, as animals cannot have copyright ownership, and it is clear the photo does not belong to anyone¹⁰⁹. Wikipedia still has the monkey selfie on its website, and no credit is given to Mr. Slater.

The analogy that we can take from the case is that AI, like animals, has no standing in a court of law. And to further the thought, animals cannot have rights and responsibilities, nor can an AI. This means that an AI like Naruto the monkey cannot be an author as an author can only be a natural person. Authorship comes with rights that cannot be separated from the natural person who has them, the moral rights of copyright. WIPO has also observed this issue in their discussion on AI and has stated that “--copyright system, which has always been intimately associated with the human creative spirit and with respect and reward for,

¹⁰⁹ Transparency report, 2014

and the encouragement of, the expression of human creativity”¹¹⁰ It can be said that copyright ownership is very intimately entwined with humanity. The question of whether an AI can be an author can be answered only with no. Only a natural human can be an author.

The place of artificial intelligence is also a conversation with industrial rights. In Australia, Mr. Stephen L. Thaler, an inventor, applied for a patent in which he had listed the inventor of the patent as an artificial intelligence he had created. The Australian Deputy Commissioner of Patents decided that the application did not comply with the Patent Regulation 1991 as Mr Thaler was required to provide the name of the inventor of the invention.¹¹¹ Mr Thaler had listed an AI named DABUS as the inventor, but according to the Deputy Commissioner, such a system could not be an inventor.¹¹² Mr Thaler sued the Deputy Commissioner of Patents, and the case was decided upon in the Federal Court of Australia in 2021. The court decided that a non-human can be listed as an inventor in a patent application. The reasoning behind this was due to the wording of the legislation considering the naming of an inventor and the fact that an invention can be made without human interference. “In summary and for the following reasons, in my view, an artificial intelligence system can be an inventor for the purposes of the Act. First, an inventor is an agent noun; an agent can be a person or thing that invents. Second, so to hold reflects the reality in terms of many otherwise patentable inventions where it cannot sensibly be said that a human is the inventor. Third, nothing in the Act dictates the contrary conclusion.¹¹³ This view is perhaps a radical one, but not without merit. Artificial intelligence can invent, and in the Australian Act, human inventor is not specified. The court also noted that artificial intelligence cannot be a patent applicant, only an inventor. The Full Federal Court overturned this decision in 2022, where the judges residing concluded that a non-human could not be an inventor.¹¹⁴ Mr Thaler has also been in a legal battle in New Zealand and the UK all about patent applications where he listed DABUS as an inventor. In New Zealand and the UK, it was similarly decided that an AI cannot be an inventor.¹¹⁵

¹¹⁰ WIPO 2019, p. 4-5

¹¹¹ Thaler v. Commissioner of Patents [2021] FCA 879, paragraph 1

¹¹² Thaler v. Commissioner of Patents [2021] FCA 879, paragraph 2

¹¹³ Thaler v. Commissioner of Patents [2021] FCA 879, paragraph 10

¹¹⁴ Commissioner of Patents v Thaler [2022] FCAFC 62

¹¹⁵ Thaler v. Controller-General of Patents, Designs and Trademarks [2021] EWCA 1374 and Thaler v. Commissioner of Patents [2023] NHZC 554

Mr Thaler applied for the same patents from the European Patent Office (EPO). EPO rejected both of the patent applications. EPO published a statement of the rejection and their reasoning for it.

In its decisions, the EPO considered that the interpretation of the legal framework of the European patent system leads to the conclusion that the inventor designated in a European patent must be a natural person. The Office further noted that the understanding of the term inventor as referring to a natural person appears to be an internationally applicable standard, and that various national courts have issued decisions to this effect.

Moreover, the designation of an inventor is mandatory as it bears a series of legal consequences, notably to ensure that the designated inventor is the legitimate one and that he or she can benefit from rights linked to this status. To exercise these rights, the inventor must have a legal personality that AI systems or machines do not enjoy.¹¹⁶

EPO reasoned that the inventor must be a natural person, not only because the term inventor refers to a human but also because an inventor has legal responsibilities that artificial intelligence cannot have.

Courts have decided that a non-human cannot be an inventor listed in a patent application. The same logic can be used to argue that a non-human cannot be an author. Even more so, one cannot be an author as an author has automatic rights, the moral rights that a non-human cannot have. A patent inventor has no similar rights as it is the patent applicant the protection is granted to, and the legal responsibilities could then theoretically belong to the creator of the AI inventor. So, in the future, it could be that an inventor no longer needs to be a natural human. Undeniably, a non-human, in this case, an artificial intelligence, cannot be an author. An author always has to be a natural person, and for an AI to be considered the originator of the works it generates, a completely new term would need to be invented, and AI would need legal personhood.

There are some who believe that the solution to problems with artificial intelligence and copyright should be solved by giving AI legal personhood. Then, artificial intelligence would be the author of everything it generates. *Pearlman* wrote a paper proposing that AIs

¹¹⁶ EPO, 2020

should be recognised as authors and inventors in the United States. His reasoning was that most of what AIs generated would be copyrightable if they were created by humans. Since AI systems are based on the function of human brains, there is no reason why AI cannot be recognised as performing a “mental Process” analogous to humans.¹¹⁷

4.2. TERMS AND CONDITIONS OF DIFFERENT AI PLATFORMS AND THE COPYRIGHT OWNERSHIP IN THEM

It is hard to determine who the copyright of AI-created works really belongs to. To clarify this issue, in this chapter, the Terms of service of five different AI tools are analysed to see how the AI tool creators have seen the ownership of the intellectual property rights. The five selected AI tools are Language models Open AI ChatGpt (ChatGPT) and Jasper, coding tool GitHub Copilot (Copilot) and image design tools Midjourney and NightCafe. The copyright ownership that is investigated here is for both inputs and outputs. Inputs are the prompts that the user inputs into the AI tools, such as a drawing of a cat in a forest. Outputs are defined as the creations of the AI tool, such as suggestions for codes or images, such as the picture of the cat in the forest.

ChatGPT

“As between you and OpenAI, and to the extent permitted by applicable law, you (a) retain your ownership rights in Input and (b) own the Output. We hereby assign to you all our right, title, and interest, if any, in and to Output.”¹¹⁸ “Similarity of Content. Due to the nature of our Services and artificial intelligence generally, output may not be unique and other users may receive similar output from our Services. Our assignment above does not extend to other users’ output or any Third Party Output.”¹¹⁹

According to ChatGpt, the user retains their copyright to the inputs. This means that they believe that the user has owned them from the beginning, and inputting prompts into the system does not mean that ChatGPT can claim them. On outputs, the verb used is own, which

¹¹⁷ *Pearlman*, 2018, p. 37

¹¹⁸ terms of use ChatGPT, In force January 2024

¹¹⁹ terms of use ChatGPT, in force January 2024

can either mean that Open AI believes that the user automatically owns the outputs or that they belong to Open AI. With these terms, they are given to the user. ChatGPT also adds a disclaimer that the outputs may not be unique, and the onus is on the user not to infringe on third-party copyrights.

Jasper

“We claim no ownership rights over Customer Property. The Customer Property remains yours.”¹²⁰ It is further clarified that both inputs and outputs are considered to be customer property ““Input” means the information you input via prompts into the Services to which you own or have permission to use the Intellectual Property Rights therein. For the avoidance of doubt, Input shall not be deemed to include any Jasper Property. -- “Output” means the output generated and returned by the Services to you based on the Input. For the avoidance of doubt, the Output shall not be deemed to include any Jasper Property.”¹²¹. The customer grants “to Jasper a royalty-free, sublicensable, transferable, perpetual, irrevocable, non-exclusive, worldwide license to use, reproduce, modify, publish, list information regarding, edit, translate, distribute, syndicate, publicly perform, publicly display, and make derivative works of all such Customer Property” license to all the outputs¹²²

Jasper divides the intellectual property into Customer Property and Jasper Property. Customer property is considered to be all the inputs and outputs. These are deemed not to include any Jasper Property. The wording of not claiming ownership rights and that Jasper wants to be granted a license to use all the outputs means that Jasper believes the user has ownership over everything. Subsequently, the user has to have a copyright to the outputs, as only the copyright owner can grant a license.

Midjourney

“By using the Services, You grant to Midjourney, its successors, and assigns a perpetual, worldwide, non-exclusive, sublicensable no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute text, and image prompts You input into the Services, or Assets produced by the service at Your direction.”¹²³

¹²⁰ terms of service Jasper, version 4.1

¹²¹ terms of service Jasper, version 4.1

¹²² terms of service Jasper, version 4.1

¹²³ term of service Midjourney, in force June 2023

“Subject to the above license, You own all Assets You create with the Services, provided they were created in accordance with this Agreement.-- -- If You are not a Paid Member, You don’t own the Assets You create. Instead, Midjourney grants You a license to the Assets under the Creative Commons Noncommercial 4.0 Attribution International License”¹²⁴

Midjourney wants a license to all the inputs, so they believe the inputs belong to the user. When it comes to outputs, they are not as clear anymore. Midjourney has two types of users: paid members and unpaid members. If you purchase the service, you own the outputs. If you use the free version, you only have a license to use the outputs but do not own them. This suggests that Midjourney believes the copyright of the outputs is theirs as they have the power to license the outputs.

When it comes to the paid members, the ownership of the outputs suddenly changes. It is not possible for the automatic owner to be both Midjourney, with the unpaid members and the paid members. This would lead to the belief that the paid members purchase the rights to the outputs with their membership fee. However, the wording does not fit this, as owning something would also mean having moral rights. If Midjourney owned the outputs and sold them to users for a member fee, moral rights would remain with Midjourney.

NightCafe

“Once your Artwork has been created and delivered to you, all Intellectual Property Rights subsisting in that specific Artwork is transferred to you and you may use your Artwork for personal or commercial purposes.”¹²⁵

“You grant us a non-exclusive, irrevocable, royalty-free, worldwide, non-sublicensable (other than to our related bodies corporate, as that term is defined in the Corporations Act 2001 (Cth)) and non-transferable right and licence, to use Your Intellectual Property for the purpose of performing our obligations or exercising our rights under this Agreement.”¹²⁶

NightCafe terms also have a clause about a license to the user's intellectual property, which has to mean the inputs. The inputs are owned by the user who grants a license to NightCafe. The outputs, which in this case are referred to as Artwork, are owned by NightCafe. However, all rights are transferred to the user at the moment of delivery. The moment of

¹²⁴ terms of service Midjourney, in force June 2023

¹²⁵ terms of service NightCafe, in force 04.12.2023

¹²⁶ terms of service NightCafe, in force 04.12.2023

delivery with generative AI is most likely the moment the image has been generated and appears on the user's screen.

Copilot

“GitHub does not own Suggestions. You retain ownership of Your Code”¹²⁷ The terms do not explain any further the copyright, but the first part should be understood as meaning the outputs of the AI as the word suggestions is used to reference the outputs in other parts of the terms. And the second part must refer to both outputs and inputs. GitHub claims no ownership of outputs, and the user owns their own inputted code and then also the outputs to it.

While investigating these five terms of services, few conclusions can be made. Inputs are considered to be owned by the user. Copilot and ChatGPT refer to users retaining all their copyright to it, and Jasper, Midjourney and NightCafe want the user to grant a license for the AI platform to use these inputs. As a license can only be granted by the copyright owner, it is clear that all AI tool creators believe that the inputs belong to the users. It is, however, a completely different question whether or not an input can be copyright protected.¹²⁸

The terms start to differ regarding the ownership of the outputs. Copilot again claims no ownership, and the wording leads to believe that the suggestions are either owned outright by the user or are in the public domain and can, therefore, be used by anyone. ChatGPT gives all the rights to the user if they even have any, which means that the creators of ChatGPT believe that they either have the copyright to the outputs or the outputs are in the public domain. From the terms of Jasper, it seems that the user owns the copyright of the outputs. Midjourney believes it owns the copyright, as Midjourney grants unpaid users a license to use the outputs, and paid users own everything they create. Meaning that Midjourney has exchanged their rights for money. Similarly, NightCafe also believes it owns the copyright, which is then transferred to the user.

Two platforms believe they own the copyright. One thinks it is either the platform or no one at all. One seems to think that the user owns the copyright, and one apparently that it is either the user or no one. So, in that case, according to the three platforms, the AI or the creator of the AI tool would be the author since the AI tool creators seem to think they can grant rights

¹²⁷ customer terms Github Copilot, in force January 2024

¹²⁸ Most inputs are few words long and not in any way original and thus would not have copyright protection, however, some users as much better at these inputs and some inputs especially longer worded ones, codes and imagines definitely could and do have copyright protection.

to the outputs. This then begs again the question: can AI be an author? As stated before non-humans cannot be authors,¹²⁹ as only a natural human can be an author. Two platform believe the author is the user or that there is none. This leaves two options as the author, the creator of the AI and the user.

4.3. CREATOR AS THE AUTHOR

The creator is the person or company that develops the AI tool. They have created the conditions for the creation of all the AI-generated work, and they own the AI. However, AI is an independent and autonomous, self-learning entity, so even the person who coded the AI may not necessarily know how or why the AI has arrived at a certain solution. The AI's operation has changed due to continuous machine learning due to countless variables, permanently altering its original nature. The creator has nothing to do with the user prompts that initiate the generation of outputs. They also have nothing to do with the actual generation of the outputs. Every definition of originality starts with the author's own intellectual work. Emphasis can be put into the word own here. The work needs to be the author's own creation, and everything that is artificially generated cannot be said to be the creator's own. *Shlomit* compares the creators of AI programs to a piano manufacturer¹³⁰. The piano manufacturer has no claim over the pieces composed on the piano later. Similarly, the creators of AI tools should have no claim over the outputs the AIs they created make later on the instruction of other people.

The answer to the question of whether the creator is the author of AI-generated works seems to be no. It is very farfetched to claim that the AI platform owner would be the author of all the works generated by the AI, even those the creator has no involvement with. However, economically, it could be a massive advantage to the companies creating artificial intelligence tools if they were to own everything it generates.

¹²⁹ see section 3.4.

¹³⁰ *Shlomit*, 2017, p. 696

4.4. USER AS THE AUTHOR

It has been determined that AI cannot be an author, and thus, the copyright cannot be owned then by the AI platform. The next question that needs to be answered is whether the user of the AI tool is the author of the AI-generated work and, subsequently, the copyright owner.

Artificial intelligence users have probably the most extensive interest in obtaining copyright protection. The user would be the logical recipient of the protection as the user is the one for whom the work is generated and the one who uses it. Can the user be an author when the work is generated through an automated process they have nothing to do with?

This has to be looked into through the user's contribution. The user does not create the work themselves, but what is the significance of their contribution. Could copyright protection be achieved if the contribution is high enough.

Picture 1 was created with a short prompt: "drawing of a cat in a forest". Seven words were the only contribution of the user. NightCafe made all the "artistic" choices of composition, colour, etc. The user contribution is close to zero in this case, and the user cannot claim to be the author of the drawing. But what about generated work where the user specifies the subject, colour scheme, and more? Using a prompt that defines much more of the image wanted, for example, the kind of forest, the breed of the cat, and the cat's position, means that the user contributes to the creation of the image and has somewhat of an expectation of how the image will turn out. *Hristov* poses the idea that using an AI when the user makes these artistic choices is no different from using a phone camera. Smartphone photos are computer-generated, and the process is automated and can be compared to AI-generated works.¹³¹

Using a prompt, "Drawing of a Bengal cat with blue eyes in a deciduous forest with fern. The cat lies on its back with one paw towards the sky, trying to touch a yellow lemon butterfly. The cat is bathing in sunlight filtered through the leaves of the trees surrounding it. The cat is in the middle of the picture with the forest around it." to generate an image. (Picture 4 and 5)

¹³¹ *Hristov*, 2017 p.435-436



Picture 4 Generated with NightCafe

Picture 5 Generated with NightCafe

As can be seen from the two example pictures (pictures 4 and 5), using a more specific prompt does not guarantee that the user will get the kind of image they want. And even though the user participated in some of the artistic choices, the user had no part in the actual creation of the image. The AI made autonomous choices based on the words given to it. The difference between using generative artificial intelligence and smartphones is significant. Both are automated processes, but with the smartphone, the author controls where, when and why a photo is taken, and the work will be exactly as they want it to be like. With generative artificial intelligence, some choices are always left up to the machine, which will inevitably alter the end product from what the user had in mind.

The U.S. Copyright Office has decided on a matter of user contribution in AI-generated works. *Zarya of the Dawn* is a short comic book written by Kris Kashtanova. Kashtanova planned the whole comic book, and she wrote the text portions. The pictures in the comic were, however, created using an AI tool, Midjourney¹³². Kashtanova was initially given copyright to the whole comic, but after the U.S. Copyright Office became aware that some portions of the comic were made with an AI tool, they revoked the copyright¹³³. Kashtanova responded to this by explaining the extensive artistic process behind every illustration in the comic book. Her lawyer explained that Kashtanova had designed all images by deciding on the juxtaposition of all the visual elements, comparable to a photographer choosing the

¹³² *Zarya of the Dawn* letter, 2022, p.

¹³³ *Zarya of the Dawn* letter U.S Copyright Office, 2022, p. 1-2

conditions for taking photos. All the illustrations were also worked upon by adjusting the generated images.¹³⁴ Kashtanova's lawyer believed that the illustrations should be copyrightable as Kashtanova only used the AI as a tool similar to a camera, and in the case that AI could not be looked at as a tool like that, the illustrations would be copyrightable under §101 of the Copyright Act as a compilation¹³⁵. The U.S. Copyright Office rejected Kashtanova's lawyers' arguments for the copyrightability of the illustrations. The reason was that only works created by human authors are copyrightable. Though Kashtanova was part of the process of creating the illustrations, it does not negate the fact that Midjourney generated the illustrations. Kashtanova was given copyright to the text, selection, coordination, and arrangement of the written and visual elements in the work but not to the illustrations.¹³⁶

Kashtanova's contributions to the illustrations were major. However, the actual creation of the images was still done by an AI. Contribution does not equal creation, and in this case, almost everything in the illustrations was AI-generated. Kashtanova only did minor enhancements with Photoshop.

EU copyright law defines originality as an author's own intellectual creation reflecting his personality through free and creative choices. The Meaningful part here is the free and creative choices that need to be made. The author of the work has to make free and creative choices in order to gain protection. When using artificial intelligence, humans relinquish their freedom to make these creative choices to the machine. Because the user is not the one making these choices, they cannot be the author of the works.

What about a situation where the AI generates a part of the work, and the user finishes it themselves? Does the user have a copyright to the whole work? For example, an AI generates a forest background, and then a human draws the cat and the butterflies on top of the background. Undeniably, the user is the author of the part they made. However, they cannot claim the background as their own. Making a part of the image does not change the fact that part of it was generated. Nor can an AI be considered a tool if it generates parts of the work on its own. An argument could be made about the work being protected by copyright under the Copyright Act Section 6. However, the problem is the lack of another human author. AI cannot be an author, and Section 6 requires that the work be done by two or more authors.

¹³⁴ Zarya of the Dawn letter, 2022, p. 6-8

¹³⁵ Zarya of the Dawn letter, 2022, p. 4

¹³⁶ Zarya of the Dawn letter U.S Copyright Office, 2023, p.1

In conclusion, Section 6 does not apply here. Copyright Act Section 5 about Work of Compilation would be a better possible option for protection in this case.

A person who, by combining works or parts of works, creates a literary or artistic work of compilation shall have copyright therein, but his or her right shall be without prejudice to the rights in the individual works.

For a work to be a compilation, it needs to consist of other works or parts of other works. A compilation that does not consist of other works is not a compilation meant in Section 5. So, the image of a cat drawn by an author and a forest background generated by artificial intelligence would only be classified as a compilation if the forest background itself were classified as a work.¹³⁷

Using a tool to aid the creation of a work does not diminish the artistic value of the work. These tools can be, for example, a computer with Microsoft Word used to write a novel, a paintbrush used to make an oil painting and a camera used to take a picture. Some believe artificial intelligence to be a similar tool, but as shown above, artificial intelligence differs quite significantly from these tools. However, a generative artificial intelligence that only assists humans in creation should be considered a similar tool. An example of this is writing assistance AIs such as Grammarly. Grammarly goes through the text given to it and makes suggestions for corrections for grammar and syntax, as well as synonyms and how to sound more professional or more positive. What it does is not any different from having a human editor going through a text. The editor does not change the idea of the text. It only corrects mistakes and helps to make the text more cohesive. It does not affect the rights of the authors of novels to have human editors. Similarly, using Grammarly should not affect the ownership of a text. When using Grammarly, the user must write all the text first. Grammarly can only make corrections to existing text. It cannot create text on its own.

The user is not the author of AI-generated works. When AI generates work, and the user enhances it or adds to it, the user cannot claim the parts generated by an AI, only the parts they made themselves. When an author creates a work and uses AI to enhance it, it does not change that the author has a copyright to the whole work. Then, an AI is a tool comparable to a camera. The critical difference is whether the AI autonomously generates something or if it only adds to an existing work.

¹³⁷ More on this issue on Chapter 4.4.

Neither the creator nor the user is the author of artificially generated works, which leads to the conclusion that AI-generated works cannot have copyright protection as they lack the necessary human author. This means that everything AI generates is in the public domain.

5. FURTHER ISSUES WITH AI AND INTELLECTUAL PROPERTY PROTECTION

5.1. GENERATED WORKS AND ORIGINALITY

As stated in the previous Chapter, the lack of human authors in AI-generated works means they cannot be protected by copyright. However, this would be a relatively simple issue to fix by deciding that, for example, the user would be the author of all AI-generated works that reach the threshold of originality. This warrants an examination of whether AI-generated works can reach the threshold.

Originality in copyright means an intellectual creation reflecting the personality of the author. Personality is something only humans possess, so as a premise, it is impossible for a machine to show personality. However, as the CJEU has clarified, personality refers to a degree of creative freedom and exercise of choices. Artificial intelligence makes choices when generating work and has creative freedom. Works generated by artificial intelligence would seemingly fulfil the criteria given to originality. There are, however, several issues with originality in AI-generated works.

As stated before, generative AIs mimic human creativity; however, can AI be creative when everything it generates is based on existing works, training data and later outputs it creates? The works AIs generate often mimic the styles and patterns of the training data, for example, an image generator AI trained primarily with Disney movies would create images of characters very similar to existing Disney characters. In Australia, in 2022, artists claimed that an AI tool, Lensa, stole their content. Lensa makes self-portraits, and the Australian artists claimed that it clearly mimicked the styles of human artists, as some of the portraits are clearly distinctly recognisable as other artists' work.¹³⁸ Sometimes, these AIs even create parts of their training data. Stable diffusions AI has created many images with Shutterstock watermark¹³⁹. The AI has clearly been trained with watermarked images and thus has come to the conclusion that a watermark is part of certain types of images. This clearly shows that AIs use parts of their training data to make new images.

¹³⁸ Guardian, 2022

¹³⁹ Many people shared their generated images on social media platforms that clearly had watermarks on them. Social media platform X, users

This might not be an as much of an issue in the future. The new Artificial Intelligence Act contains provisions about the training data and the usage of copyright-protected material as training data. Recitals 104-109 all contain information on this. The Artificial Intelligence Act takes into consideration the text and data mining exception to copyright. It clarifies that the use of copyright-protected material as training data requires permission from the copyright holder. The fact that permission is required would mean that most copyright-protected data cannot be used as training data, which would lessen the possibility of artificial intelligence mimicking artists as the artist could prohibit the usage of their works as training data. This does not, however, completely erase the issue, as even with permission to use copyright-protected data, that is not a blanket permission to produce mimicking works in the future.

There is also the problem of repetition in AI-generated works. If you input the same prompt enough times, the AI may generate the same image more than once. It may even generate the same image for two different people using similar prompts. The possibility of the same work is minuscule as continuous learning means continuously changing the AI system, but it is still a real possibility. The Finnish test of whether another person could have created the same work had they started creating a work with the same premise would then suggest that since there is always a possibility of an AI repeating the same work, nothing it generates can have copyright protection.

Rahmatian argues that AI-generated works have no copyright protection because creating a work requires a human cognitive process. An author experiences and understands something about the world and then has the ability to show a part of it in a way never done before.¹⁴⁰ This process is the crucial step in showing personality in an intellectual creation. While capable of mimicking human intelligence, artificial intelligence does not possess the capability of human cognitive processes. *Rahmatian's* view differs from *Pearlman's*,¹⁴¹ who instead believes that AIs do have a cognitive process comparable to humans and should thus have legal personhood. *Rahmatian's* view is more in line with how I understand the inner workings of artificial intelligence. While the leaps in machine learning technology are impressive, they have still not bridged the gap between machines and humans. AIs, while capable of learning and changing, will still follow the rules set to them by the coders and will not go outside them. So, no actual cognitive process can be made. And as the CJEU

¹⁴⁰ *Rahmatian*, 2024, p. 29

¹⁴¹ *Pearlman*, 2028, p. 37

defines originality through free and creative choices, it can be said that the AI's choices cannot be considered free the same way a humans would. This is especially true when taking into account the definition of when the choices are free and creative set by the CJEU in the *Football Dataco* -case. "By contrast, that criterion is not satisfied when the setting up of the database is dictated by technical considerations, rules or constraints which leave no room for creative freedom."¹⁴² While no human might know why exactly an artificial intelligence will arrive at certain conclusions, it still does not take away from the fact that it follows rules while generating artificial works. Because it follows the rules, nothing it generates can satisfy the originality criteria needed to obtain copyright protection.

There are many who believe that EU copyright law is flexible enough to cover artificially generated works with some changes. *Hugenholtz and Quintais* argue that an output is a work and thus copyright protected when it is "(1) in relation to "production in the literary, scientific or artistic domain"; (2) the product of human intellectual effort; and (3) the result of creative choices that are (4) "expressed" in the output."¹⁴³

The first point is easily satisfied. Most of what is generated is a production in the literary, scientific or artistic domain. For example, pictures 1, 4 and 5 are in the artistic domain. The issues are the rest of the points. The output needs to be the product of human intellectual effort and the result of creative choices that are expressed in it. Here, the question is, can something artificially generated be a product of human intellectual effort? In chapter 4.4. I have argued that a user cannot be the author of generated works because using artificial intelligence means giving up the autonomy of making free and creative choices. As the user has relinquished most of their choices to artificial intelligence, the following generated work is not truly an expression of the user's own intellectual effort. Thus, it is very questionable to say that an output could ever be a result of human effort. If the output is not a product of human intellectual effort, it cannot show the creative choices of the human user.

The European Parliament's report on intellectual property rights for the development of artificial intelligence technologies states that the originality requirement may mean that autonomously produced artificial works are not eligible for copyright protection due to the requirement being strongly linked with natural persons' creativity.¹⁴⁴ This is the key issue

¹⁴² C-604/10 *Football Dataco Ltd and Others v Yahoo! UK Ltd and Others* ECLI:EU:C:2012:115, paragraph 39

¹⁴³ *Hugenholtz – Quintais*, 2021, conclusions

¹⁴⁴ Report on intellectual property rights for the development of artificial intelligence technologies p. 9

with AI-generated works. The lack of human involvement means that there is no human creativity. Without human creativity, the criteria given to copyright protection cannot be satisfied.

The measure of copyright is originality, which can only be achieved through showing the author's personality in the work. Are the images created by AI creative in a way that shows enough originality to get copyright protection? At the moment, the answer is no, they are not. The AI shows no true originality when generating images, even when it creates a completely new kind of image of a red car compared to the ones in its training data. In the case of copyright protection of AI-generated works, it is an all-or-nothing kind of question, and while some works could be argued to have sufficient originality, for example, an argument could be made for less creative work like databases, most do not. Especially taking into consideration the possibility that the AI can generate the same work for two different people, one of whom would then have the copyright.

Because AI-generated works cannot be original in the sense of their own intellectual creation, which shows the personality of the author, it can only be deduced that no AI-generated works have copyright protection even if the issue of human author would be solved.

5.2. *SUI GENERIS* AS PROTECTION FOR AI-GENERATED WORKS

In the European Union, copyright is not the only protection for databases. In cases where a database is not original, it can still be protected through *sui generis*. The *sui generis* protection is based on the Database directive¹⁴⁵. It is meant to compensate for the loss of the sweat of the brow protection due to the harmonisation of the threshold of originality in databases¹⁴⁶. *Sui generis* is intended to protect unoriginal databases that require “substantial investment, financial and in terms of human resources, effort and energy in obtaining, verifying or presenting the contents of a database.”¹⁴⁷ These kinds of databases are clearly not original. However, collecting and maintaining a massive database requires a lot of investment, which is why protecting them against unauthorised use is crucial. These kinds

¹⁴⁵ Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases

¹⁴⁶ Rosati, 2013, p. 67

¹⁴⁷ Summary of Directive 96/9/EC on the legal protection of databases, 2019

of databases are essential to businesses, and to ensure a good economic situation in the single market, it is imperative to ensure that business can protect their assets.

Sui generis rights are economic rights that last for 15 years from the date which the database was completed. The rights prohibit the unauthorised extraction and re-utilisation of the database in question.¹⁴⁸ As they are economic rights, the rights can be transferred or, waived or licensed.

A significant investment, whether quantitative or qualitative, is independent of the resources used to create the content of the database. This has been corroborated by the CJEU in *Fixtures Marketing Ltd v Oy Veikkaus Ab* -case.¹⁴⁹ The legislative materials do not address whether the term "significant" investment refers to absolute or relative significance. For example, if it is a relative requirement, one person's month-long effort may be sufficient to qualify for protection. If it is an absolute requirement, protection may only be granted for investments made by medium or large companies. From the perspective of the provision, this crucial question has not been addressed in domestic case law either. However, the investment requirement has been dealt with on a case-by-case basis in the opinion practice of the Copyright Council.¹⁵⁰

Is artificial intelligence the kind of database that is protected by *sui generis*?

It is indisputable that creating artificial intelligence requires significant investment. Coding a system as developed as ChatGPT takes much time and requires financial support. So, on that front, artificial intelligence meets the requirement for a significant investment. The problem with artificial intelligence and *sui generis* is not the amount of effort put into the programme but whether artificial intelligence can even be considered a database meant in the directive.

“A structured set of data held in a computer, especially one that is accessible in various ways”¹⁵¹ is how the Oxford English Dictionary defines the word database. The definition of the word implies an unchanged structure. The unchangeability of the database is corroborated by the term *sui generis* protection, as it begins from the date that the database

¹⁴⁸ Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases, Article 7

¹⁴⁹ C-46/02 *Fixtures Marketing Ltd v Oy Veikkaus Ab*. EU:C:2004:694 Judgment of the Court (Grand Chamber) of 9 November 2004 ECLI:EU:C:2004:694.

¹⁵⁰ *Harenko etc.*, 2024, p. 689

¹⁵¹ OED, 2024, Database

is complete. Claiming that artificial intelligence could ever be a completed database is somewhat questionable. While it is a set of data held in a computer, artificial intelligence's main advantage over earlier technologies is its ability to keep learning and evolving. Artificial intelligence gets more data every time the platform is used. For example, every time ChatGPT is used in Finnish, it learns more and more grammar, and its sentence structures become more cohesive. When will the protection start and end if artificial intelligence is never complete?

Databases also do not create more data themselves, unlike generative artificial intelligence. These artificial intelligence are programmed to generate more data that is also then added to their existing data to help create more new data. All the outputs artificial intelligence creates are added to its knowledge. However, it is new data of its own creation. This means that new data is constantly being added to the 'database' that is an artificial intelligence.

On a general level, artificial intelligence could barely be called a database. However, it is possible to give artificial intelligence access to the internet. In this case, artificial intelligence could not in any way be labelled as a database. Database refers to a set of data with something in common, no matter how little. However, just because technically everything the internet offers is a set of data housed on a computer, it is not plausible to say that an artificial intelligence that uses the whole internet as data to generate work is a database.

Databases are also defined in the database directive Article 1(2): "For the purposes of this Directive, 'database' shall mean a collection of independent works, data or other materials arranged in a systematic or methodical way and individually accessible by electronic or other means."¹⁵² The directive adds the criteria for the data to be somehow organised. Whether the data artificial intelligence houses is somehow systematic is not something that can be verified. For artificial intelligence to work, the data does not need to be organised as the advancements in machine learning of artificial intelligence have made labelled organised data redundant.

There is also a question of the usage of generated works. If, for argument's sake, it is stated that artificial intelligence is a database protected by sui generis, what rights do the users have for the generated works? The creator of the artificial intelligence would be the one receiving the protection as they are the person who created the database. It is not the necessary creator

¹⁵² Directive 96/9/EC of The European Parliament and of The Council of 11 March 1996 on the legal protection of databases, article 1

who utilises the artificial intelligence, but usually other users. If the cat image had protection as it is considered part of the database, could the user whose prompt created it use it how they please, and when they use it, do they then have protection against infringements of that exact cat image? These questions cannot be definitely answered. However, the *sui generis* protection is only for the database and, as such, could not be extended to protect the rights to the image after a user starts using the image outside of the original “database”.

Due to these reasons, the ongoing nature of artificial intelligence, and its barely being a database, *sui generis* is not a suitable form of protection for generative artificial intelligence and its generated works.

5.3. AI-GENERATED WORKS IN THE PUBLIC DOMAIN

In this thesis, it has been shown that artificial intelligence cannot be an author; the owner of the artificial intelligence is not the author of its generated works, and the user is not the author of generated works. It has also been argued that AI-generated works are not original in the sense of being their own intellectual creation, which shows the personality of the author; it can only be deduced that no AI-generated works have copyright protection at the moment. *Sui generis* protection is not a suitable protection form for these generated works either. This means that everything artificial intelligence generates is in the public domain.

The public domain has been seen as rather restricted. Most of what humans create does reach the threshold of originality or is otherwise protected. The public domain mostly consists of works that had copyright protection, but it has now lapsed. The fact that everything artificial intelligence generates is in the public domain significantly increases the amount of works in free use.

It is notable that while artificially generated outputs do not have any intellectual property protection, this does not mean they have no protection. Outputs could be eligible to be protected as private assets through trade secrets. However, protection through property laws leaves gaps in the utilisation of generated outputs.

6. NEW WAY FORWARD

6.1. WHY THERE IS A NEED FOR NEW PROTECTION

Works generated by artificial intelligence are in the public domain. The implication of this is that anything artificial intelligence generates cannot be exclusively used. Artificial intelligence is now and will be in the future even more an integral part of the continuous advancement of society. In Ensuring that the research put into artificial intelligence does not stifle it is integral to ensure that artificial intelligence creators and users can benefit from it.

One reason for intellectual property is the social requirements of it. Not having any protection for AI-generated works is against the social requirement of copyright and arguably also against just reward and stimulus for creativity.

The reasoning of just reward is debatable as to who the just reward belongs to in the case of generative AI. The AI developers should be rewarded for the efforts they have put towards creating the systems. But when talking about AI-generated works, should the user for whom the work is generated be able to have a reward for the use of the work by others? The protection of AI-generated work is also questionable on the grounds of stimulus for creativity. It is true that protecting these generated works would lead to using AI more as there most likely would be more AI platforms to use. However, the stimulus to create AI-generated works is not what is a driving force for the need for protection.

According to *Rahmatian*, the reasons behind extending protection for AI-generated works are purely economic. Rahmatian says about the purpose of copyright that, “Its purpose is to turn products of human services into exchangeable intangible property”¹⁵³. The reasons behind the lobbying of AI copyrights are for companies developing AIs to make money by having protections against “parasitical competition”¹⁵⁴. I am inclined to agree with this view. However, economic reasons are valid reasons for creating a new protective system for AI-generated works.

The companies that utilise artificial intelligence decide whether the research continues or not. Artificial intelligence has many applications, one of which is creating materials for

¹⁵³ *Rahmatian*, 2024, p. 26

¹⁵⁴ *Rahmatian*, 2024, p. 26–27

companies. However, in the current situation, companies would be extremely careful of using generated materials as they would have no exclusive right to use them and no way to stop others from using these materials. The fact that companies cannot largely utilise generated works means that these companies have no incentive to keep financing AI research by buying the products or directly funding it.

World Intellectual Property Organisation has also noted the benefits of artificial intelligence in the advancement of society.

*“Artificial intelligence (AI) has emerged as a general-purpose technology with widespread applications throughout the economy and society. It is already having, and is likely to have increasingly in the future, a significant impact on the creation, production and distribution of economic and cultural goods and services. As such, AI intersects with intellectual property (IP) policy at a number of different points, since one of the main aims of IP policy is to stimulate innovation and creativity in the economic and cultural systems.”*¹⁵⁵

As WIPO notes in the paper, one of the main purposes of intellectual property is to stimulate innovation and creativity in economic systems. Thus, the reasons for economic gain are in line with the aims of worldwide IP policy.

The EU also shares the opinion that generated works should have some intellectual property protection to encourage investments. The European Parliament commissioned a report on intellectual property rights for the development of artificial intelligence technologies¹⁵⁶. In the report, the European Parliament states that “the Union’s legal framework for intellectual property aims to promote innovation, creativity and access to knowledge and information”¹⁵⁷. The report also outlines the problems for obtaining copyright protection for artificial works due to originality requirements leaning heavily on natural humans show personality¹⁵⁸. The report suggests that these issues be clarified. Artificial intelligence technologies are at the forefront of innovation and creativity, which is why protecting all aspects of generative artificial intelligence is essential for the policy-making of the EU. European Union has in the past created new neighbouring rights to serve emerging needs.

¹⁵⁵ WIPO 2019, p. 1

¹⁵⁶ Report on intellectual property rights for the development of artificial intelligence technologies

¹⁵⁷ Report on intellectual property rights for the development of artificial intelligence technologies p. 4

¹⁵⁸ Report on intellectual property rights for the development of artificial intelligence technologies p. 9

The lack of protection for artificial works counts as one.¹⁵⁹ *Sui generis* protection of databases is an example of this.

Ballardini, Alén-Savikko, and Pihlajarinne are against a new neighbouring right for generated works. They believe that a new right would further fragment the already fragmented copyright. They think that the works that reach the threshold should have copyright protection, and everything else being in the public domain is not an issue.¹⁶⁰ They believe the solution would be to move away from the romanticised author notion towards a more common law approach to copyright while maintaining a high threshold of originality and underlining the user's contribution. In my opinion, this is not a viable option.

Changing copyright to fit generated works would mean a complete overhaul of the right. Moral rights are tied to a human author, and as has been demonstrated in this thesis, there is no human author in generated works. In order to extend copyright it would need to be explicitly stated who is the human author of AI-generated works, creator or user. While it is a relatively simple issue to solve, the problem is deciding who the author should be. An argument can be made that the user has the least to do with the creative process of generating artificial works. The user's only contribution is the subject matter of the creation. The creator of AI, however, has a much more significant role in the creative process as they enable the artificial intelligence to generate. However, the users are interested in being able to utilise the outputs beyond what strict licensing deals allow. And without the users paying for the generative artificial intelligence, we come back to the issue of funding for the artificial intelligence sector stifling. Or we would have to abandon moral rights completely. Abandoning moral rights would go against the obligation set in the Berne Convention. It would be a very radical solution and thus not advisable. It is possible to determine the author of AI-generated works. If this was the solution, the most logical answer would be to make the user the author of the work. However, this does bring more issues with the moral rights. Firstly, the problem with the right of paternity, is that the actual creator is the AI, should the usage of AI be part of the naming of the author. If it is not, it could raise more issues, for example, university students getting ChatGPT to write their master thesis for them.

The second problem comes with the right of integrity, as seen in Chapter 4.1. The AI platforms retain the generated works as a part of the data of the AI. The AI can then modify

¹⁵⁹ *Tzoulia – Kalles, 2024, p. 180*

¹⁶⁰ *Ballardini – Alén-Savikko – Pihlajarinne, 2018, p.*

the work, and there is always a possibility the reuse and modification of the generated work would then be offensive towards the “author”. But a machine has no way of realising what kind of modifications would be offensive. And preventing offensive modifications would be nearly impossible. What is an offensive modification is something that has to be determined on a case-by-case basis, and it cannot really be broken down into simple instructions that could be coded in artificial intelligence. Even if these problems were solved, reaching the threshold of originality would still be the problem. It is my opinion and has been argued in this thesis that AI-generated works do not reach the threshold of originality. So, there would be a need to change how originality is defined. It would have to move away from the creativity of humans more towards the effort used in the process. This would also broaden the copyright protection to other works that could not currently obtain it due to insufficiently showing originality.

It is due to the need to secure funding for artificial intelligence research and development that will have a significant impact on society that there is a need to protect AI-generated works. However, as per the reasons given, modifying copyright to provide this protection is not a viable solution as it brings more issues with it than it solves. This is why there is a need for a new neighbouring right. This is not just my opinion, *Rahmatian*¹⁶¹, *Tzoulia* and *Kalles*¹⁶² all state that a sui generis right would be a better solution for intellectual property protection for artificial works than changing copyright as well.

6.2. NEW FORM OF PROTECTION: USER’S RIGHT

Artificial works have a significant impact on society, which is why there is a need to protect AI-generated works. However, as per the reasons given these artificial works are not protected. Changing copyrights to fit as protection would mean fundamental changes.

In generative artificial intelligence, a gap in intellectual property protection is in the generated works. There is no protection, however, there is a great interest to exclusively use these generated works. Works have many commercial applications, but they cannot be utilised this way due to the lack of protection. However, copyright itself is a very

¹⁶¹ *Rahmatian*, 2024, p. 31–33

¹⁶² *Tzoulia – Kalles*, 2024, p. 179-181

encompassing right, and bringing these generated works under copyright is unnecessary. Rather, a lesser right to exclusively use these works should be given, which is a user's right.

As shown in this thesis, the requirements of the human author and human originality do not mesh with machines. This is why the user's rights should not have similar moral rights as copyright has. This would eliminate the need for the human author, leaving room for the human user as the owner of the intellectual property right. The economic aspects should be the ones protected. This would solve the issues with the right to integrity that artificial intelligence can cause by eliminating the right to integrity. And there really is no need to name the author as there is no author.

The most important aspect of the user's right would be to exclusively use the artificial work and to be able to prevent the unauthorised use of third parties. A caveat of this would be that the artificial work will remain a part of the generative artificial intelligence data to help it learn and evolve. It could not be considered an infringement for it to stay as a part of the training data, and in the event that the AI then produces the same artificial work, only the earlier one could have protection.

Economic rights are also transferable. It would not be necessary for the user's right for it to be transferable. Transfer of rights is used as a way to gain economically from the works, but with artificially generated works, the economic gain would come from being able to use what is generated exclusively. In traditional works, talent is required to achieve a certain level of artistic work, which is why transfer of rights is also essential for obtaining works, as not everyone can produce them. For example, a publishing house will buy the rights to books from authors who have the kind of talent to write bestselling novels so that they can then disseminate them and gain economically. However, when using artificial intelligence, the same kind of talent is not necessary in order to generate artificial works of the same calibre. While prompt engineering is a term of engineering better prompts to gain better results from artificial intelligence, it is the kind of talent that the public at large can easily learn. Prompt engineering does not differ from learning other new technologies. Email was considered complex and only accessible by a few in the beginning, but now it is used every day. This is why the user's rights would not necessarily need to be transferable. However, while it is not exactly necessary if the user is meant to have exclusive rights to the artificial works, they should be able to transfer the rights as well.

As a way to distinguish between works and artificial works, all artificial works should be labelled as generated by artificial intelligence. This would also prevent claiming ownership of generated works, which is especially important in academia. Some Universities have already faced issues with students turning in assignments written by artificial intelligence.

Gaining the user's right to artificial work would be contingent upon the fact that no exciting intellectual property claims can be made to the artificial works. As has been explained, artificial intelligence mimics its training data and generates the same or similar outputs, infringing on existing rights. User's rights could not be used to override earlier rights to works.

7. CONCLUSIONS

7.1. CONCLUSIONS

Works generated by artificial intelligence are in the public domain. This is due to two reasons.

Firstly, all copyright-protected works need to be products of natural persons. The requirement of a human author is tied to the moral rights of copyright and the originality requirement of works. Moral rights are directly connected to the author in a way that they cannot be waived or transferred. This creates an issue with works generated by artificial intelligence. Artificial intelligence, of course, cannot be an author as it is a non-human. This leaves the option of the human author to be either the creator of the artificial intelligence or the user of the AI. The creator of the artificial intelligence, however, has no involvement in creating the generated works beyond coding the artificial intelligence and making its action possible. There is still no direction involvement in the process as the creator is not the one giving the prompts to the artificial intelligence. Due to this, what artificial intelligence generates cannot be considered the creators' own work. The creator of the artificial intelligence thus cannot be the author.

The user of the artificial intelligence is involved in the creation process by giving the AI a prompt from which the artificial intelligence will then generate the artificial work from. The issue of authorship of the user is, however, their lack of participation in the actual creation process of the work. While it is possible to give precise prompts that should lead to the work that the user envisioned, the artificial intelligence will still do all the work. It is similar to taking credit from someone else's work. The idea comes from the user, but copyright does not protect ideas. The user does not make the free and creative choices behind the artificial work. And the act of making these free and creative choices is what determines who the author of the work is. As the creator is the artificial intelligence and not the user, the user cannot be considered an author of the artificial work. The user relinquishes these choices to the artificial intelligence, even when giving more precise prompts, making the AI the creator of the artificial work.

Even when the user contributes to the work by making parts of it, the possibility of obtaining copyright protection is questionable. Copyright protection would only exist in limited situations where the generated work that a human then adds to is seen as a compilation. This would only occur if the artificially generated part could be considered a work of its own, which leads again to the issue of who is the author of that work. This could be resolved by simply defining the author of AI-generated works.

Artificial intelligence cannot be seen as a tool comparable to a camera in the creation of a work, as it does much more than a camera. AI will make choices that are then taken away from humans in a way that a camera cannot. The only situation in which AI can be seen as a tool is when it is used to enhance work created by humans, similar to Photoshop or a human editor correcting writing. In this situation, the user is the author, but when the AI generates works of its own and does not enhance existing work, the user cannot be the author. In works generated by artificial intelligence, there is no author.

Lack of authorship is a relatively simple problem to fix by defining who the author is without significantly changing copyright. For example, stating that the human who uses the artificial intelligence is the author would mean that there is a human author, and it could then be possible for these artificial works to be compared to works.

However, the lack of human authors is not the only problem in AI-generated works. The second reason why copyright protection is not suitable protection for AI-generated works is that these artificial works do not reach the threshold of originality. Originality is defined as the authors' own Intellectual creation that shows their personality. Firstly, a machine does not have the personality that it can showcase in this generated works. Artificial intelligence also lacks the human cognitive process necessary to create. Moreover, artificial intelligence is known to mimic its training data even to the point of recreating parts of it, and there is always a possibility of generating the same work more than once. Originality is further defined as making free and creative choices that are not dictated by technical considerations, rules or constraints, which leave no room for creative freedom¹⁶³. Artificial intelligence is an evolving intelligent machine, but it is still just a machine that follows certain rules and patterns in everything it makes. Furthermore, Rahmatian theorises that the reason why

¹⁶³ C-604/10 Football Dataco Ltd and Others v Yahoo! UK Ltd and Others ECLI:EU:C:2012:115, paragraph 39

artificial works can never obtain copyright protection is that in order to create a work, a creative cognitive human process must be done. A human will perceive, understand, and then create.¹⁶⁴ Because it is a human cognitive process, a machine can never reach it even when artificial intelligence reaches and surpasses the level of human intelligence. A machine can never be able to have a human cognitive process as it is not a human. Because of all these issues, nothing artificial intelligence generated can be a work with Copyright protection. These works do not fulfil the requirements set for copyright.

Currently, no other intellectual property right is suitable to protect these artificially generated works. This leads to the conclusion that everything that artificial intelligence generates is in the public domain. This means that nothing artificial intelligence generates can be exclusively used. This also means a significant increase in the public domain, as most public domain works consist of works for which copyright protection has lapsed.

There is a need for the protection of these artificial works as the continuation of innovations in the field of artificial intelligence needs to be secured. The usage of artificial intelligence is only increasing, but what it creates cannot be exclusively used. This is especially problematic for businesses as they will not risk their material being used by others by using generative artificial intelligence. The fact that businesses won't use generative intelligence to their fullest potential means less funds for the research and development of artificial intelligence. This is problematic as it can stifle or, at the very least, hinder the innovations done in the field, which will, in turn, negatively affect the development of society.¹⁶⁵ Artificial intelligence will play a vital role in the development of society in the future, which is why legal problems surrounding it need to be addressed. Because of this, it is absolutely necessary to have some kind of intellectual property protection for artificially generated works.

The first solution would be to designate an author and change copyright so that artificial works could be protected by it. It is possible to change copyright protection to fit these generated works. However, it would mean an overhaul of the right as it would require changing the originality requirement away from human creativity. The basis of copyright protection and the originality requirement is the creativity of humans and protecting that.

¹⁶⁴ *Rahmatian, 2024, p. 29*

¹⁶⁵ There is much agreement that without any protection AI developing will be hindered, Hristov 2017, Alén-Savikko – Ballardini – Pihlajarinne 2018, Shlomit 2017, Pearlmann 2018, Rahmatian, 2024, Tzoulia – Kalles., 2024

However, in order for copyright to encompass artificial works, human creativity could no longer be the cornerstone of originality.

A better solution would be a new neighbouring right, a user right. User's rights would give the user of the AI exclusive right to use the work as long as the artificial work would not infringe on existing intellectual property rights.

There should also be a requirement to declare that the work was generated fully or partially by artificial intelligence to prevent users from claiming copyright ownership over generated works. This could cause many problems, especially in Academia, if researchers claim something written by artificial intelligence as their own work.

7.2. FURTHER RESEARCH TOPICS

If a new user's rights protection is created, how to ensure the rights of third persons would need to be determined. Generated works can infringe on copyright or other intellectual property rights of third persons. The exclusive rights to use generated works would need to be without prejudice to existing rights. How it could be ensured that the rights of thirds were respected with generative artificial intelligence is a topic that should be studied.

A related topic would be the usage of copyright-protected training data in the training of artificial intelligence. The Artificial Intelligence Act has several provisions concerning the usage of copyright-protected data. The act requires that copyright-protected data can only be used with permission in the training of the artificial intelligence model unless a limitation applies. This means that the text and data mining exception does not automatically cover all training data. There are, however, many questions still left on this issue. For example, what about training data from other territories. There is also a possibility of researching this topic by comparing the EU and other regions, such as the United States. A class action lawsuit has been filed against Stability AI, DeviantArt, and Midjourney in the United States due to using Stable Diffusion artificial intelligence. The lawsuit alleges that the machine learning of artificial intelligence has utilised copyrighted material from millions of different artists without permission and compensation. This is considered copyright infringement in the lawsuit. Similarly, Getty Images has filed a lawsuit against Stability AI in the United States and the United Kingdom. The lawsuit alleges that Stability AI has copied over 12 million

images from Getty Images' database without permission and without compensation. A class action lawsuit against Microsoft, GitHub, and OpenAI for piracy has been filed. The Copilot artificial intelligence program has reproduced several long pieces of licensed code. This is because its training data has used open-source codes that have been subject to different licenses. The use of all licenses would have required the author's permission. These suits are still in progress, but as they have been decided, the rationale behind the decisions can be compared to those of the Artificial Intelligence Act.

The Artificial Intelligence Act itself warrants a lot of research. Most provisions of the act won't be applied until two years after it comes into force, which also presents many questions. Such as how the member countries will implement the act in their legal systems and how they will see the provisions. Especially since it will take a while for it to be applied in the Court of Justice of the European Union to clarify its provisions. The act is the first of its kind and will most likely significantly impact how legal frameworks surrounding artificial intelligence are shaped worldwide.

Another research topic regarding generative artificial intelligence would be examining AI's role as a patent inventor. This thesis quickly introduced a few cases about the topic; however, much more research needs to be done. For artificial intelligence to be an inventor, not as much would need to change as for artificial intelligence to be an author. While inventors currently have certain inherent responsibilities, this issue can be looked into through a work-for-hire regime.