

GAZING INTO AN ABYSS: DEFINING THE NON-PROTECTED ABSTRACT MATTERS IN EU COPYRIGHT LAW

Matěj Myška

doc. JUDr. Ph.D., associate professor, Masaryk University, Faculty of Law, Institute of Law and Technology, Veveří 158/70, 611 80 Brno, CZ, e-mail: matej.myska@law.muni.cz

Keywords: *copyright law, protected subject matter, sufficient precision and objectivity*

Abstract: *Thanks to the case law of the Court of Justice of the European Union, the requirement of “sufficient precision and objectivity” became a further cornerstone of the, as of now harmonized, notion of work (“Werkbegriff”). This requirement shall provide for legal certainty of third parties as regards to the extent of protected subject matter. The borderline is formed, inter alia, by the direct opposite, i.e., abstract matters. The main aim of this contribution is to concretely define the abstract (sic!) in copyright law. To achieve this aim the contribution firstly shortly explains the requirement of “sufficient precision and objectivity” as introduced by CJEU. In this step the “definitions of non-protected subject matter” are to be observed and synthesised and thus a picture of “the void” in copyright protection should be formed. As the “abstractness” is mostly encountered in the area of computer programs, this subject matter should be regarded the primary focus of the study. Moreover, the patent law deals in extensive matter what is not to be protected on the basis of being abstract, i.e., being a “non-invention”. To find out these boundaries, EPO conclusions in the area of computer-implemented inventions are utilised. In the end, the contribution shall find common regulatory features in these two areas of intellectual property law and discuss what conclusions could be theoretically applicable to the delimitation of the authorial work and to contribute to the ongoing debate on the scope of the protected subject matter in the EU copyright law.*

1. Introduction: problem statement and course of the examination

“Ohne Werk kein Urheber und kein Urheberrecht”, i.e., without work no author and no author’s rights – a simple maxim coined by Peukert [2023, 60]¹ in his seminal author’s rights textbook illuminates the importance of the precise delimitation of the protected subject matter, i.e., the work. As of now however, the EU copyright law has seemingly arrived at a happy place, as the notion of work (“Werkbegriff”) is an autonomous one therefore, all the national peculiarities (such as the requirement of “uniqueness” in Czech Republic²) may well rest in the introductory and history parts of the copyright law textbooks. Furthermore, in this happy place everything concerning the notion of work has been already cleared and fully interpreted by the Court of Justice of the European Union (CJEU). The concept is seemingly rather simple, as the standard used previously for computer programs, databases and photographs, i.e., the notion of originality is to be applied on works. Consequently, to be protected by copyright law as work the subject matter must generally meet two conditions cumulatively as formulated by the CJEU.³ Firstly, it must be “original, in the sense that it is the author’s own intellectual creation”.⁴ Secondly, the subject matter must express the author’s own intellectual creation, i.e.

¹ Translations from German to English by the author on the basis of translation by www.deepl.com.

² See sec. 2 para 1 of the Czech Copyright Act [Act 121/2000 Sb., autorský zákon; no official translation available].

³ *Levola Hengelo*, C-310/17, para. 35.

⁴ *Levola Hengelo*, C-310/17, para. 36 (referring to *Football Association Premier League and Others*, C-403/08 and C-429/08, para. 97 and the case-law cited).

be an expression of the work.⁵ The overarching criterion that such an expression must be identifiable with sufficient precision and objectivity is the latest addition by the CJEU in the *Levola Hengelo*, *Cofemel* and *Brompton Bicycle* cases.⁶ As a result, there are no outstanding legal issues to solve and debate on pages of law journals.

Or maybe not.

Namely, the positive definition provides only a half of the whole picture – to obtain the full one, the limits and outskirts of notion of work must be further debated and searched for. A case in point example is the special kind of animal in the copyright ZOO⁷ – the computer programs, which are, as Goldstein and Hugenholtz [2019, 195], “*quintessentially utilitarian works*”,⁸ but, nevertheless subject to same regime of protection as literary works.⁹ Furthermore, there is subject matter involved in the computer programs that is sufficiently precisely and objectively identifiable, but not an expression of a work.¹⁰

This paper tries to contribute to the delimitation of non-protected subject matter with special focus on “*abstractness*” and that also despite the very apt remark by Widła [2023, 16] that “*any attempt to pinpoint the exact boundary between protected and unprotected elements is perilous*”. Firstly, the latest criterion of sufficient precision and objectivity of the work’s expression and its impact on the scope of protection is shortly examined. Next, the negative “*void spaces*” in the notion of protected work are explored. In the following part, the abstract matter exclusion as used under the European Patent Convention and usability for copyright law is examined. The last part concludes and with a reference to new cases pending before the CJEU shows, that the search is nowhere its end, and that the proverbial abyss is still gazing into the protected subject matter by copyright.

Methodologically, the paper could be classified as trying to solve a “*micro-legal question*” approach [Siems, 2008, 148–152]. The EU copyright law and patent law as regulated by the European Patent Convention are the primarily discussed regulatory framework.

2. Sufficient precision and objectivity as the new protectability requirement

The newly adopted criterion of sufficient precision and objectivity is an obvious “*legal transplant*”.¹¹ Originally, a concept known mainly from the trademark law and originating in the *Sieckmann* case,¹² it now should help the third parties concerned (especially the competitors) to “*identify, clearly and precisely, the subject matter*” protected by copyright.¹³ Consequently, the expression must be “*identifiable*” [Quintais/Hugenholtz, 2021, 1194] and thus the authorial works could be understood as “*bounded expressive objects that have a certain unity and stability of expressive form*” [Pila, 2021, 67]. These rather abstract have also a practical processual part. Namely, the work must be able to be perceived by others and consequently be accordingly manifested during an infringement proceeding and also a part of the lawsuit as evidence [Peukert, 2023, 65]. As Quintais and Hugenholtz note [2021, 1200] rather “*the process of creating rather than the ensuing act of expression that is truly decisive for copyright protection*”. However, the creative process and expression are inexorably linked as there must be an “*attributable connection*” between them [Quintais/Hugenholtz, 2021, 1200].

⁵ *Levola Hengelo*, C-310/17, para. 37 (referring to *Infopaq International*, C-5/08, para. 39; *Football Association Premier League and Others*, C-403/08 and C-429/08, para 159)

⁶ *Levola Hengelo*, C-310/17, para. 41; *Cofemel*, C-683/17, para. 34 and 35; *Brompton Bicycle*, C-833/18, para. 25.

⁷ The metaphor of copyright as ZOO where the respective legal institutes are the creatures therein was utilized by HUGENHOLTZ [1997].

⁸ This dual nature of computer programs is also confirmed, e.g., by PEUKERT [2023, 76] or JANSSEN [2021, 80]

⁹ This obligation is rooted in Art. 10 TRIPS and Art. 4 WCT.

¹⁰ The author would like to thank doc. JUDr. Pavel Koukal, Ph.D. for inception and discussion of this idea.

¹¹ On this concept see, e.g., LEGRAND [1997].

¹² *Sieckmann*, C-273/00.

¹³ *Levola Hengelo*, C-310/17, para. 36.

For the area of computer programs this criterion is not that problematic, as for other “*non-traditional*” works, as the computer programs are not ephemeral and are expressed in such stable and expressive form, mainly in source code or object code.¹⁴ It must be however noted, that the CJEU also decided quite clearly, that graphic user interface¹⁵ and programming languages, data formats, and functionality¹⁶ do not constitute an “*expression*” of a computer program as such. In these cases, the CJEU further held further, that these could be protected as “*standard works*” under the information society directive, provided that they are original [Bently/Yin-Harn, 2016, 244–246]. From these decisions Laskowska-Litak [2019, 767] draws a logical counter-conclusion regarding the needed form of expression in the case of protectable computer programs. Namely, that only such an expression of the computer program is to be protected when its “*reproduction would engender the reproduction of the computer program itself, thus enabling the computer to perform its task*”.¹⁷ Building upon the work of Laskowska-Litak [2019] it could be thus argued, that only the “*functional expressions*”, i.e., the one realizing the tasks of the computer program, are generally to be regarded as an expression of a computer program.

However, there might subject matter be that is very well identifiable but fails to be an expression of a work, i.e., where the further requirements set by CJEU are not fulfilled. The next part focuses exactly on these “*void spaces*”, mainly the non-copyrightable abstract matter.

3. Defining the non-protected abstract matters in EU copyright law with focus on computer programs

The general rule of thumb of copyright law heeds, that “*the more abstract the to-be-protected matter, the more likely it is to be regarded as not eligible for copyright protection*” [Peukert, 2023, 66].¹⁸ The reason therefore is, that the monopolisation of the ideas should be prevented [Peukert, 2023, 65; Grützmacher, 2022, § 69a, marg. n. 28] and “*broad leeway for further creative activities and room for unimpeded development of creativity*” should be ensured [Blocher/Walter 2010, 102-103].

On the international level this most basic proviso cutting the abstract matter from protection could be found in the Art. 9 para. 2 TRIPS, that contains the idea/expression dichotomy principle. Accordingly, only “*expressions*”, and as Peukert [2023, 65] notes a concrete-personal one (“*konkret-persönliche Form*”) for that matter, and not “*ideas, procedures, methods of operation or mathematical concepts as such*” shall be protected by the parties to TRIPS¹⁹. Similarly, the WCT²⁰ contains, in its article 2, basically the same provisions. On the union level, the directive on legal protection of computer programs²¹ expressly denies protectability of “*ideas and principles underlying any element of the computer program*”.²² This delimitation of the abstract matter is further explained in recital 11 CPD, “*to the extent that logic, algorithms and programming languages comprise ideas and principles, those ideas and principles are not protected*”. This has been also confirmed in the case law of CJEU.²³ The level of abstraction is the decisive criterion, however it might be a rather fluid one [Grützmacher, 2022, § 69a, marg. n. 28]. Of course, this establishment of the demarcation line is however,

¹⁴ Or even hardcoded into the hardware – see recital 7 CPD.

¹⁵ *Bezpečnostní softwarová asociace*, C-393/09, para. 42.

¹⁶ *SAS Institute*, C-406/10, para. 46.

¹⁷ *Bezpečnostní softwarová asociace*, C-393/09, para. 38.

¹⁸ Similarly GRÜTZMACHER [2022, marg. n. 28.].

¹⁹ Agreement on Trade-Related Aspects of Intellectual Property Rights (as amended on 23 January 2017), available from https://www.wto.org/english/docs_e/legal_e/31bis_trips_01_e.htm.

²⁰ WIPO Copyright Treaty (adopted in Geneva on December 20, 1996), available from: <https://www.wipo.int/wipolex/en/text/295166>.

²¹ Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs (Codified version) further referred to as “CPD”.

²² Recital 11 and article 1 para. 2 CPD. Any element in this context also includes interfaces – on copyright issues within the context of interface see MYŠKA [2019].

²³ *Bezpečnostní softwarová asociace*, C-393/09, paras. 33 to 35; *Top System*, C-13/20, para. 36.

especially in connection with computer programs, extremely important and at the same time very difficult to establish [Wiebe et al., 2022, 204]. The copyright law however protects only the concretely expressed original²⁴ idea (“*Ausdrucksform*”; “*konkret ausgedrückte Ideen*”) and not the concretized mental concepts (“*concretisierte gedankliche Konzepte*”) and not at all abstract ideas [Wiebe et al., 2022, 204]. Consequently, the copyright law protects the expression of the specific code of a computer program (in any form), however “*not the abstract functionality (idea, working method), i.e., not the technical problem, that the software is solving*” [Peukert, 2023, 77; similarly, Wiebe, 2019, marg. n. 21]. This feature of protection is truly paradoxical and is subject to criticism, as functionality is the true nexus of the economic value of the computer program (“*wirtschaftlicher Wert*”), whereas its achievement is not [Dreier, 2022, marg.n. 2]. This is similarly criticized by Blocher/Walter [2010, 104] with the note, that the solution of the informational problem is to be regarded as the “*most important contribution*”. This issue is then extrapolated and illustrated in the context of (non)protection of algorithms, that are basically a description of a process/solving of a problem [Blocher/Walter, 2010, 103; Janssens, 2021, 80]. Being a description on a high level of abstraction [Blocher/Walter, 2010, 103], these are excluded from copyright protection to the level of comprising ideas and principles – however a specific expression²⁵ – a “*structured solution*” to a problem might be protected [Blocher/Walter, 2010, 104] or “*the way in which the algorithms are implemented and assigned to each other*” [Grützmacher, 2022, marg. n. 29]²⁶. The case law of courts of the United States of America provides perhaps the most pertinent test, addressing the differentiation of abstract/non-abstract elements of the computer program – the so-called Abstraction-Filtration-Comparison test.²⁷ Wiebe [2019] likens this test to the German “*tissue theory*” (“*Gewebetheorie*”)²⁸ that focuses on the structure of the program and helps to delimit the respective protected and unprotected elements.²⁹

The last part of this contribution before conclusion should focus on the question, whether any conclusions and clarifications could be drawn in this area from patent law protection of computer-implemented inventions.

4. Excluded abstract matters in patent law

The defiance to protect the “*abstract*” (or abstract subject matter) is shared with patent law, especially in the area of computer programs.³⁰ To help to define the limits of copyright protection, it seems plausible to also investigate this regulatory field, especially vis-à-vis the protection of computer programs by copyright and find the common regulatory features.

Generally, the patent law deals in an extensive matter off what is not to be protected because of being abstract, i.e., being a non-invention. Specifically, under the Art. 52 of the European Patent Convention,³¹ to be patent-

²⁴ Originality is also not present in cases, where there is no other way of expressing the (abstract) idea, i.e., where the originality is missing, because no space is left for the personality of the author to be manifested [JANSSENS, 2021, 80].

²⁵ According to BING [2009, 492–493, fn. 15] the algorithms could be expressed “*in an almost endless number of varieties*”.

²⁶ With reference to BGH, decision of 4. 10. 1990 – I ZR 139/89 (Hamm) – Computerprogramm – Betriebssystem.

²⁷ Computer Associates International v. Altai, 775 F.Supp. 544 (E. D. N. Y. 1991, CR 1992, 462, aff’d 982 F.2d 693 (2d Cir. 1992); Lotus Development Corp. v. Borland International, Inc., 799 F.Supp. 203 (D.Mass. 1992) as cited by WIEBE [2019, marg. n. 22]. For example ELAND [1994] provides a detailed analysis of this test.

²⁸ As introduced in BGH, decision of 4. 10. 1990 – I ZR 139/89 (Hamm) – Computerprogramm – Betriebssystem.

²⁹ WIEBE [2019, marg. n. 22] sums up the test aptly as follows: “*At the first stage, different levels of abstraction are differentiated, from coding to the task of the programme as a whole and determination of a level of the idea. At each level, it is then checked whether the expression is determined by the idea, i.e. whether the programmer had any freedom of design. Restrictive factors such as efficiency and functional constraints, standardisation, compatibility and the general spread of programming techniques are also taken into account. In the third stage, as part of the infringement examination, the remaining elements are compared with the infringing programme with regard to essential similarities*”.

³⁰ The protection regimes of patent law and copyright law (Art. 10 and 27 TRIPS) are not exclusive vis-à-vis computer programs (or programs of computers); however they follow a different teleology [see e.g. STEINBRENER/CHANDLER].

³¹ Convention on the Grant of European Patents (European Patent Convention) of 5 October 1973 as revised by the Act revising Article 63 EPC of 17 December 1991 and the Act revising the EPC of 29 November 2000. Available from: <https://www.epo.org/en/legal/epc/2020/convention.html>.

able an invention must be novel, involve an inventive step and industrially applicable. A precondition is that the subject matter is an invention, that is, a technical solution to technical problem by technical means. The art. 52 para. 1 EPC then lists abstract or intellectual matters – non-inventions that do not aim for any direct technical result [Ehlers/Husband et al., 2023] namely “(a) discoveries, scientific theories and mathematical methods; (b) aesthetic creations; (c) schemes, rules and methods for performing mental acts, playing games or doing business, and programs for computers; (d) presentations of information”. These are excluded however from protection, if the application or patent relates to such intellectual matters/activities “as such” (art. 52 para 2 EPC). Therefore, these abstract matters/activities might be still part of a patentable subject matter if the basis invention has technical character.³² As noted by Ehlers/Husband et al. [2023] finding the borderline between “abstract ideas, considered not patentable, and subject matter having technical character, considered patentable” is the cornerstone of the debates of patentability of computer-implemented inventions. Currently, the “two-hurdle” [Ehlers/Husband et al., 2023] approach is used for evaluating, whether an invention in the area of computer-implemented inventions is patentable. Firstly, the innovation must be an “invention” having a technical character,³³ i.e. being a technical solution to a technical problem; secondly, the invention must show certain qualities, namely fulfil the patentability requirements (novelty, inventive step and industrial applicability) of which the inventive step is crucial as here, only “those features that make a technical contribution” [Ehlers/Husband et al., 2023] are assessed.³⁴ Algorithms as such are not technical, but may acquire this needed characteristic due to the interaction with other parts of the claimed invention (such as hardware) [Steinbrener/Chandler et al., 2019]. On the basis of the decision T 1173/97-3.5.01 (Computer program product/IBM)³⁵ in order to be patentable, or contributing to inventive step (the second hurdle) only if it has a “further technical effect”, i.e. a “technical effect either outside or inside the computer that goes beyond the normal interaction between hardware and software that every computer program causes when it is being executed” [Steinbrener/Chandler et al., 2019].³⁶

Given the abovementioned needed “form of expression” for computer programs [Laskowska-Litak, 2019], it might be broadly suggested, that purely abstract or theoretical concepts³⁷ not passing the first hurdle of the computer-implemented invention might be as well automatically excluded from copyrightability, as these would be also lacking in the functional expression, despite the fact that the functionality as such is not protected by copyright law.³⁸ The qualifying the subject matter as passing of the second hurdle, i.e., the technical contribution/technical effect, however does not help much with identifying the “void spaces”, as this is exactly the area, where the basic teleological differences between the two protection regimes start to fundamentally show up, namely, the difference between the protection of the (technical) function and its expression.³⁹

5. Conclusions

This contribution tried to enrich the current academical debate focusing on ontology of authorial work. With special focus on computer programs, the contribution manifested that in this domain, the criterion of “subjective precision and objectivity” is not to be regarded as fundamental problem. In comparison, the delimitation

³² In sum the technical character makes the invention “distinguishable from computer programs as such” [Chetrit, 2020, 94].

³³ STEINBRENER/CHANDLER ET AL., [2019] mention e.g. the case T 1173/97-3.5.01 (Computer program product/IBM).

³⁴ The so called “COMVIK approach” as laid down in T 641/00-3.5.01 (Two identities/COMVIK).

³⁵ Confirmed by G 3/08.

³⁶ The EPO lists examples of further technical effects in its Guidelines for Examination in the European Patent Office: https://www.epo.org/en/legal/guidelines-epc/2023/g_ii_3_6_1.html.

³⁷ See e.g. as noted by STEINBRENER/CHANDLER ET AL. [2019], T 619/02-3.4.02.; T 914/02-3.4.01; T 388/04-3.5.02; T 930/05-3.5.01; T 471/05-3.4.02; T 306/043.5.01 (Scheduling tasks/HONEYWELL) and T 154/04-3.5.01 (Estimating sales activity/DUNSLICENSING ASSOCIATES).

³⁸ SAS Institute, C-406/10, para. 46.

³⁹ A patentable CII could be expressed in various forms demonstrating the protected technical solution.

of what is abstract, is connected with more challenges. As the CJEU demonstrated and confirmed in the recent case law,⁴⁰ the “*legal transplant*” method from one branches of intellectual property law to another is *per se* not problematic. Consequently, the contribution proposed to use the patent law as an inspiration when delimiting the “*abstract matter*” in copyright law.

However, delimiting the computer programs scope of protection is still an ever-challenging task. In the case *Sony Computer Entertainment Europe*⁴¹ referred by the Bundesgerichtshof (Germany), the CJEU will have yet another opportunity to add another thread to the complex web of regulation. The case basically focuses on the issue, whether the protection reaches as far as to the immutability of variables content that are being used by the underlying program in the working memory but changed by another independent program – factually, the case concerns a “cheating software” that enables its user to circumvent the in-game limitations in the gameplay.⁴² As result, the CJEU will have to specify what exactly is to be subsumed under the scope of protection of a computer program.

Another further enriching development might be the decision of the CJEU in the upcoming *Mio and Others* case,⁴³ where the CJEU is asked to clarify, *inter alia*, “*how should the examination be carried out – and which factors must or should be taken into account – in the question of whether the subject-matter reflects the author’s personality by giving expression to his or her free and creative choices*” and thus to shed light on the assessment of the creative process. Indeed, by giving answer to this question, the CJEU would necessarily need to linger upon the issues, what is not a part of the creative process and/or what cannot enter into it and thus also paint the negative side of the originality issue, and also delimiting what is too abstract.

Therefore, the academics and practitioners can still look forward to judicative activity of the CJEU to bring more “*sufficient precision*” in what is actually protected subject matter in the EU copyright law.

6. Acknowledgements

This paper is the result of a project funded by the Czech Scientific Foundation (Grantová agentura České republiky) – project ID GA22-22517S “*Díla chráněná autorským právem a požadavek dostatečné přesnosti a objektivit*” (Copyrighted Works and the Requirement of Sufficient Precision and Objectivity).

7. References

- BENTLY, LIONEL/YIN-HARN LEE, Directive 2009/24/EC – on the legal protection of computer programs (Computer Programs Directive). In: DREIER, THOMAS/HUGENHOLTZ, P. BERNT (Eds.), *Concise European Copyright Law*, Second edition, Alphen aan den Rijn, Kluwer Law International, 2016, pp. 421–490. ISBN 978-90-411-2879-9.
- BING, JON. Copyright protection of computer programs. In: DERCLAYE, ESTELLE (ed.), *Research Handbook on the Future of EU Copyright*. Cheltenham/Northampton: Edward Elgar Publishing, 2009, pp. 401–426. ISBN 978-1-84720-392-2.
- BLOCHER, WALTER/MICHEL M. WALTER, Computer Program Directive, In: WALTER, MICHEL M./LEWINSKI, SILKE VON (eds.), *European Copyright Law. A Commentary*. Oxford: Oxford University Press, 2010, pp. 81–248. ISBN 978-0-19-922732-7.
- CHETRIT, CAROLINE PINTO. Chapter 7: AI and Intellectual Property. In: MARÍA JESÚS GONZÁLEZ- ESPEJO GARCÍA AND JUAN PAVÓN (eds), *An Introductory Guide to Artificial Intelligence for Legal Professionals* [online]. Kluwer Law International 2020, pp. 91–108. Available from: www.kluweriplaw.com.

⁴⁰ *Levola Hengelo*, C-310/17; *Cofemel*, C-683/17; *Brompton Bicycle*, C-833/18.

⁴¹ *Sony Computer Entertainment Europe*, C-159/23.

⁴² Summary of the request for a preliminary ruling pursuant to Article 98(1) of the Rules of Procedure of the Court of Justice in the case Case C-159/23, *Sony Computer Entertainment Europe Ltd. v Datel Design and Development Ltd., Datel Direct Ltd., JS.*. 15. 3. 2023. Available from <https://curia.europa.eu/juris/showPdf.jsf?text=&docid=273361&pageIndex=0&doclang=EN&mode=req&dir=&occ=first&part=1&cid=9507063>.

⁴³ Case C-580/23, *Mio AB, Mio e-handel AB, Mio Försäljning AB v Galleri Mikael & Thomas Asplund Aktiebolag*.

- DREIER, THOMAS. § 69a. In: DREIER, THOMAS/SCHULZE, GERNOT. Urheberrechtsgesetz [online], 7. Aufl. München: C.H.BECK, 2022. Available from: www.beck-online.de.
- ELAND, STEPHEN H. The Abstraction-Filtration Test: Determining Non-Literal Copyright Protection for Software. *Villanova Law Review* [online], Vol. 39, no. 3, pp. 665–704. Available from: digitalcommons.law.villanova.edu/vlr/vol39/iss3/3.
- GERVAIS, DANIEL/DERCLAYE, ESTELLE, The scope of computer program protection after SAS: are we closer to answers? *European Intellectual Property Review* [online]. 2012, vol. 34, no. 8, pp. 565–572. Available from: www.uk.westlaw.com.
- GOLDSTEIN, PAUL and HUGENHOLTZ, P. BERNT. *International Copyright: Principles, Law, and Practice*. New York: Oxford University Press, 2019, 448 p. ISBN 978-0-19-006061-9.
- GRÜTZMACHER, MALTE. § 69a. In: WANDTKE ARTUR-AXEL/BULLINGER WINFRIED (eds.), *Praxiskommentar Urheberrecht* [online]. 6., neu bearbeitete und erweiterte Auflage. 2022. Available from: www.beck-online.de.
- HUGENHOLTZ, P.B. Fierce Creatures: Copyright Exemptions Towards Extinction? In: IFLA/IMPRIMATUR Conference, *Rights, Limitations and Exceptions: Striking a Proper Balance* [online]. Amsterdam. 31. 10 1997. Available from: <https://www.ivir.nl/publicaties/download/PBH-FierceCreatures.pdf>.
- JANSSENS, M.-C., The Software Directive. In: *EU Copyright Law* [online]. Cheltenham/Northampton: Edward Elgar Publishing, 2021, p. 75–117. ISBN 978-1-78643-780-8. Available from: www.proquest.com.
- LEGRAND, PIERRE. The Impossibility of ‘Legal Transplants.’ *Maastricht Journal of European and Comparative Law*. 1997, vol. 4, no. 2, p. 111–124. DOI 10.1177/1023263X9700400202.
- MYŠKA, MATĚJ. Internet of Things, Interoperability and Interfaces: a Copyright Law Perspective. *Jusletter IT* [online]. 2019, vol. 2019, no. 1, 8 p. ISSN 1664-848X. Available from: <https://jusletter-it.weblaw.ch/en/issues/2019/IRIS.html>.
- PEUKERT, ALEXANDER. *Urheberrecht und verwandte Schutzrechte*. 19., vollständig neu bearbeitete Auflage München: C.H.BECK, 2023, 458 p. ISBN 978-3-406-77886-5.
- PILA, JUSTINE. The authorial works protectable by copyright. In: ROSATI, ELEONORA. (ed.) *The Routledge Handbook of EU Copyright Law*. London: Routledge, 2021, pp. 63–81. ISBN 978-1-00-315627-7.
- SIEMS, MATHIAS M. M., Legal Originality. *Oxford Journal of Legal Studies*. 2008, vol. 28, issue 1, pp. 147–164. DOI:10.1093/ojls/gqm024.
- STEINBRENER STEFAN, CHANDLER WILLIAM E. ET AL., The European Patent Convention. In: GREGORY A. STOBBS (ed), *Software Patents Worldwide* [online], Kluwer Law International 2008, Supplement No. 30, June 2019, pp. 1–146. Available from: www.kluweriplaw.com.
- WIDLA, BOHDAN, No More Convergence? Copyright Protection of Application Programming Interfaces in the USA and the EU [online] SSRN Scholarly Paper. 15 June 2023. Rochester, NY. 4481604. Available from: <https://papers.ssrn.com/abstract=4481604>.
- WIEBE, ANDREAS ET AL. *Wettbewerbs- und Immaterialgüterrecht*. 5. Auflage. Wien: Facultas, 2022, 600 p. ISBN 978-3-7089-2191-4.
- WIEBE, ANDREAS. UrhG § 69a Gegenstand des Schutzes. In: SPINDLER, GERALD/SCHUSTER, FABIAN, In: *Recht der elektronischen Medien* [online]. 4. Auflage. München: C.H.BECK, 2019. Available from: www.beck-online.de.

