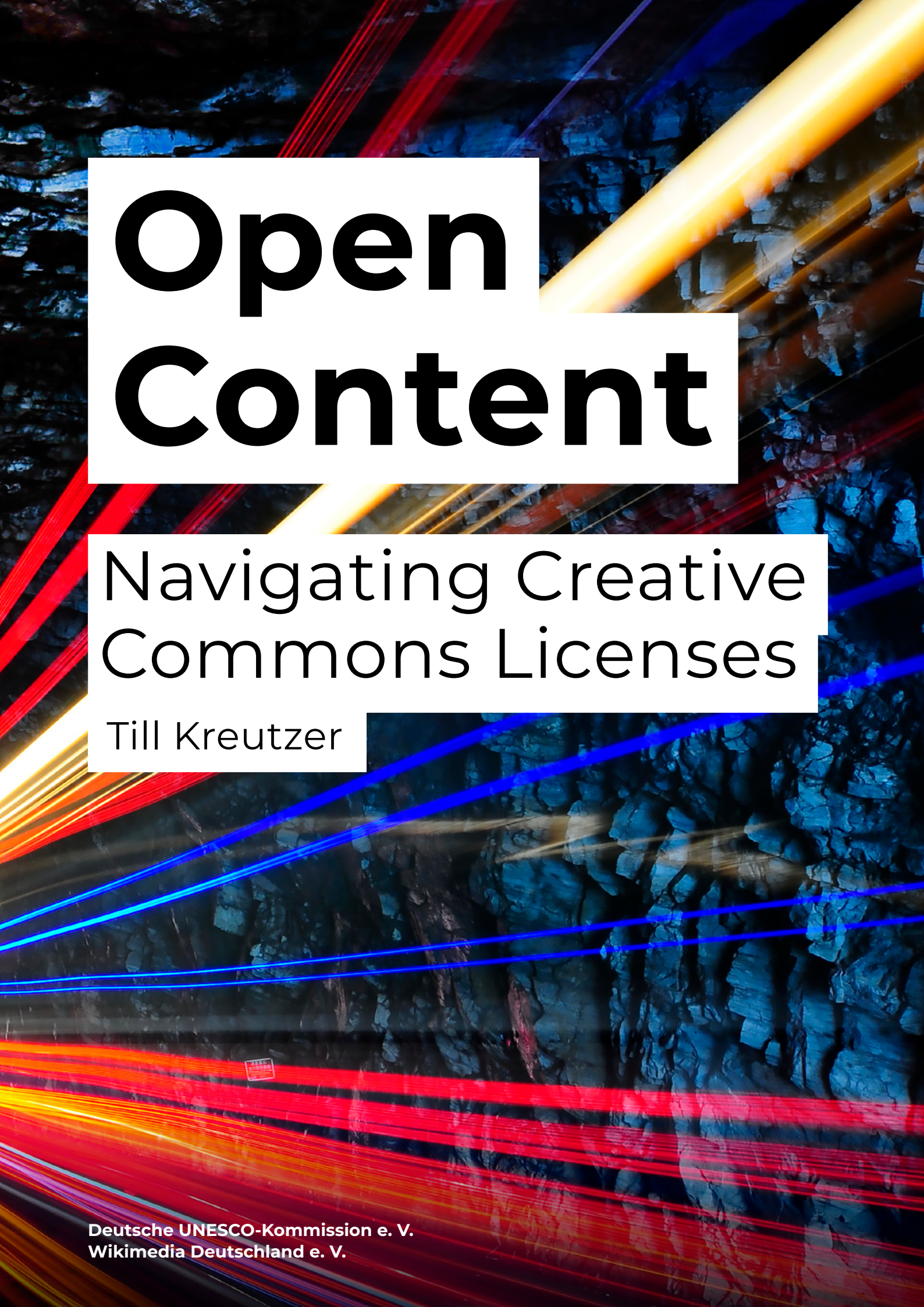


Open Content

Navigating Creative Commons Licenses

Till Kreutzer

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Open Content: Share and Enjoy

Access to information and knowledge is one of the cornerstones of modern knowledge societies according to United Nations Educational, Scientific and Cultural Organization (UNESCO). Through our work, Wikimedia Deutschland and German Commission for UNESCO foster the access to and exchange of information so that all people have the chance to participate and benefit from each other's contributions, generating new insights and possibilities. To do this, we need to provide a basis on which people can share their contributions for future use. So we have to tackle and open up copyright practices to improve access to knowledge and information.

Traditionally, copyright has been associated with restrictive terms such as "all rights reserved". This phrase implies that the copyright holder retains complete control over their work, restricting its use and distribution. However, the concept of Open Content offers a more flexible and inclusive approach. By using "some rights reserved" licenses, creators can allow others to use, share and modify their work without prior permission.

This shift empowers artists, learners, educators and researchers to build on each other's work, advancing creativity and innovation. Imagine musicians remixing freely available music or educators adapting open textbooks to better meet the needs of their students. The possibilities are endless.

In addition to advancing creativity, Open Content also democratizes access to knowledge. By making knowledge freely available, we can promote a more informed and engaged global community. Whether you're a student seeking information for a research paper, a teacher looking for engaging learning materials, or a developer building a new application, Open Content is a valuable resource.

It would be fair to say that there is a common perception that a more open approach to content licensing may potentially lead to commercial exploitation and disadvantage. However, this guide demonstrates that this is not necessarily the case.

The purpose of this guide is to help you understand and use Open Content licenses effectively. We look at how these licenses function, how to choose the right one for your needs, and where to find a wealth of Open Content online. By embracing Open Content, we can create a more collaborative and inclusive world.

This completely revised and extended text provides a compelling introduction to Open Content, highlighting its potential to transform the way we create, share and learn. We thank Dr Till Kreutzer for writing these valuable guidelines and wish all our readers an informative and enlightening read.



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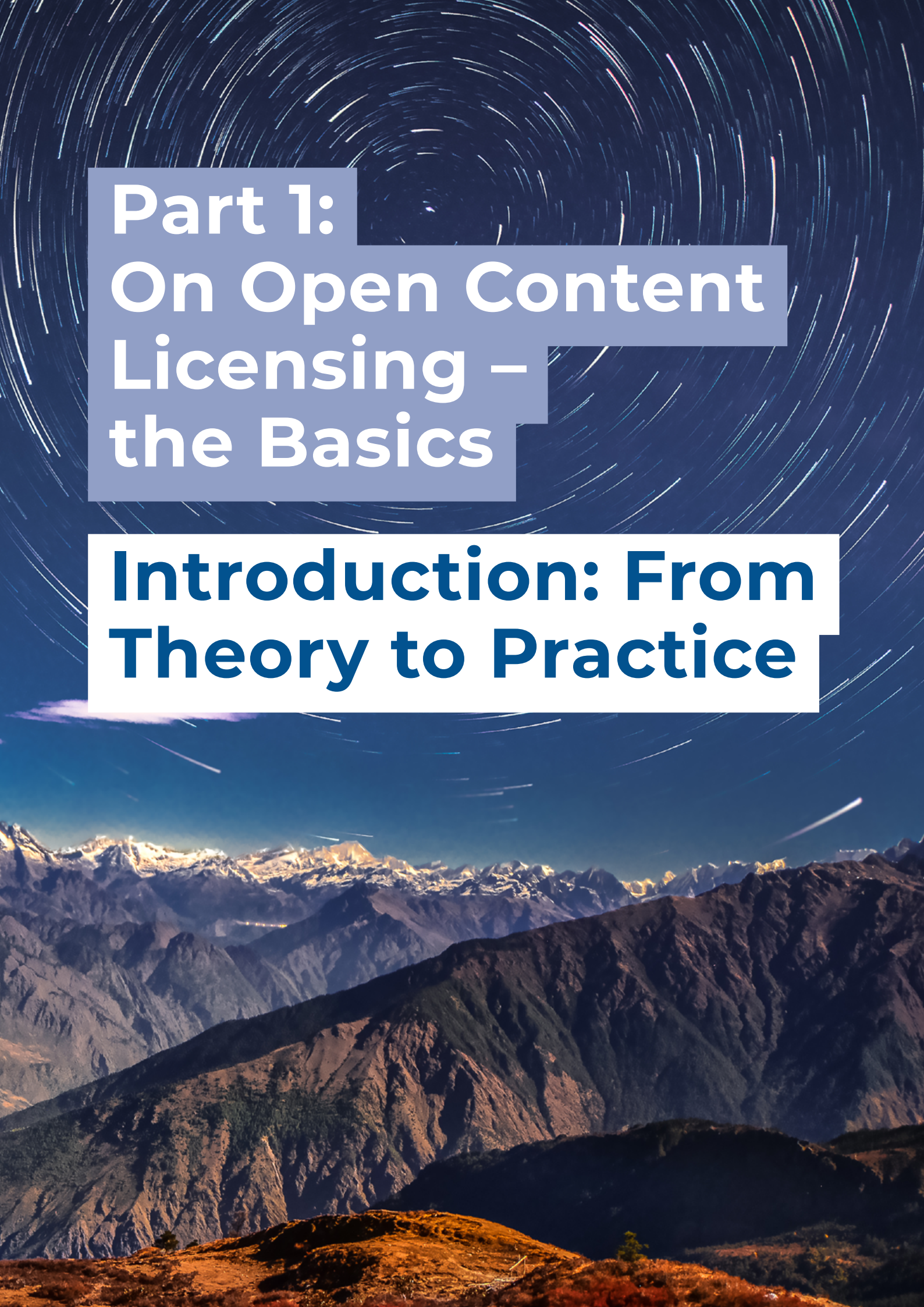
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Part 1: On Open Content Licensing – the Basics

Introduction: From Theory to Practice

1. Introduction

Open Content: Content released under licenses that allow free use, distribution and modification by others.

Licensing: The process by which an author grants another party permission to use their work, often under specific conditions.

Copyright: The exclusive right of an author to control the distribution, use and modification of their work.

Exclusive rights: Rights reserved exclusively for the author of a work, such as the right to reproduce, distribute, and modify it.

Limitations and exceptions (to copyright): Statutory rules that allow the use of a copyright-protected work without permission by the rights holder.

The principle of Open Content licensing was invented to facilitate the use and distribution of copyright-protected works. Copyright is a rather restrictive regime which grants a series of exclusive rights to the copyright holder, including the right to distribute and share or modify a work. These acts cannot be undertaken without explicit permission from the rights holder.

Notwithstanding, there are certain types of uses which can be undertaken without permission. These are known as "limitations" or "exceptions" to the exclusive rights, which include, for example, the right to quote from a work or to make a private copy. Some jurisdictions know open concepts for copyright limitations and exceptions, such as the "fair use doctrine" under Section 107 of the US Copyright Act. But these limitations are generally not very broad and at times difficult to assess.

The inventors of the Open Content idea considered the copyright regime too restrictive for both users and creators alike. Therefore, they decided to establish a system of easy-to-use standard licenses (i.e., rules that allow the use of copyright-protected works under certain conditions) in order to promote a free culture. Nowadays, millions of copyright-protected works are published online and offline under Open Content licenses, including movies, music, images, texts and graphics that can be used, distributed, shared, made available, modified or remixed by anyone without explicit consent from the copyright holder nor the payment of a license fee. It is thus fair to say: The digital commons has become a reality within the last decades.

The Open Content model relies on three basic principles:

Simplifying legal transactions: Open Content licenses are published online and can be used by any interested creator or other rights holder. They provide rights holders with legal and technical tools that allow them to enter into legally binding agreements with anyone interested in using their work. Unlike the usual legal (contractual) transaction, there is no need for the parties — the licensor (rights holder) and the licensee (user) — to contact each other in person.

Granting a broad, royalty-free license: The user is allowed to use the work freely for most purposes. In fact, the user's rights to use the content are much broader than the limitations and exceptions provided by statutory copyright law. All rights are granted free of charge. The rights holders, on the other hand, can choose from a variety of licenses, ranging from the more restrictive to the more permissive, allowing them to decide which rights are openly granted and which are reserved for individual agreements.

Minimizing legal uncertainties: Both users and right holders benefit from the simplicity of the licenses, as the legal regime they implement is considerably less complex than statutory copyright law. The broader and less restrictive the license, the simpler the rules. The benefit to the licensors is that they can tell their users what they may and may not do with the work in plain and simple language. Rules that are understood are more likely to be followed. Users, on the other hand, know what they are allowed to do and can easily understand the obligations.

The guiding principle of the Open Content idea is "some rights reserved". It was conceived in contrast to the traditional copyright notice "all rights reserved" found on many CDs, books and magazines. At the same time, the "some rights reserved" principle distinguishes Open Content from the public domain: Open Content is neither free of rights (copyrights) nor can it be used without permission or rules. It is protected by copyright and can only be used under the terms of the legally binding license that the rights holder has chosen for their work. Therefore, public licensing is neither a political nor a legal statement about intellectual property rights (IPR), nor does the concept challenge the copyright or IPR system. Rather, public licensing is a concept that facilitates the handling of copyrighted works for the benefit of rights holders and users alike.

All rights reserved: A traditional copyright notice indicating that all copyrights are reserved by the creator.

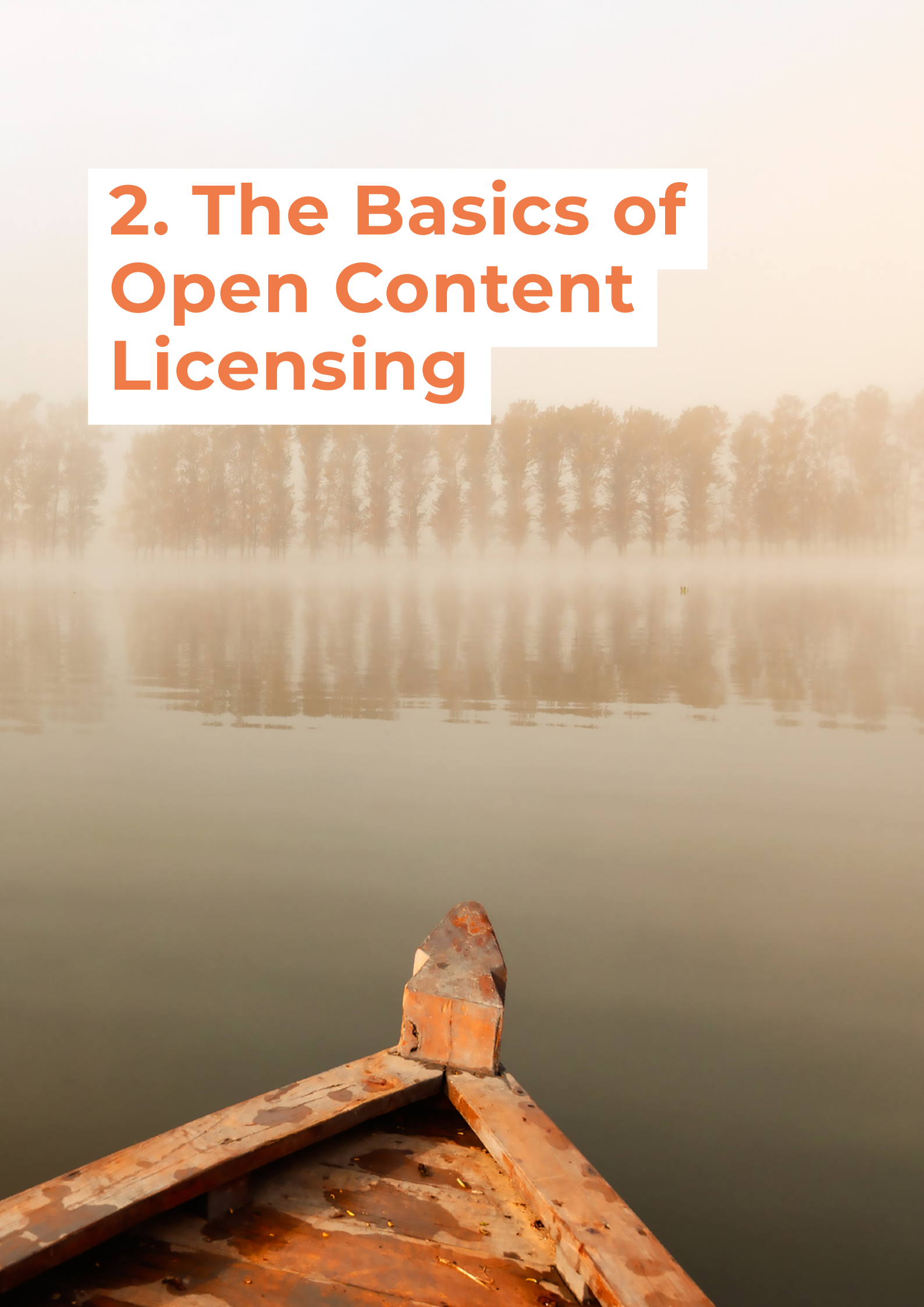
Public domain: Works that are no longer protected by copyright and can be used without restrictions by anyone.

This guide has been written to facilitate the legitimate and correct use of Open Content and Open Content licenses. It has been written for anyone who wants to learn more about Open Content, especially creators, companies, organizations and private users, rather than for legal experts. Its aim is to keep the information and language simple. This requires a balancing act between simplicity and professional precision, which hopefully has been achieved in this publication. Feedback and suggestions to the author are always welcome.

Please note that this guide has been published to provide general information and answer common questions about Open Content licensing, and in some cases reflects the author's personal opinion. It is not intended to be legal advice or a substitute for legal advice. Those seeking legal advice on a specific case should consult a lawyer.



2. The Basics of Open Content Licensing



2.1 Background

Open source software: Software whose source code is openly accessible and can be used, modified and shared by anyone according to an open-source license.

GNU General Public License (GPL): A widely used open-source license that allows software to be freely used, modified and distributed.

Adaptation/ adapted material: A work that has been modified or transformed from its original form.

Creative Commons: A nonprofit organization that offers a range of public licenses allowing flexible copyright management for works.

Copyright: The exclusive right of an author to control the distribution, use and modification of their work.

The principle of Open Content is based on the ideas of the "Free and Open Source Software" (FOSS) movement. The open source approach was established in the software market in the 1990s, largely as a result of the huge success of GNU/Linux and its license, the GNU General Public License (GPL). Written in 1989, the GPL was the first free software license that allowed users to use, study, share and modify the software. Today, entire markets are based on the development, maintenance, adaptation and marketing of open source software. The creators of Open Content took the basic ideas of FOSS and applied them to other forms of creative contributions such as music, films and images.

The main protagonist of the Open Content movement was Lawrence Lessig, a legal scholar at Harvard Law School in Cambridge, USA. In 2001, together with Hal Abelson and Eric Eldred, he founded the Creative Commons (CC) initiative to promote the digital commons. CC's goal was to encourage and enable creators to open their works for general use without having to rely on costly and complex legal advice or to donate their rights to the public domain. To this end, CC has developed and published a range of different licenses that are easy for licensors to use and for users to comply with. In addition, the initiative provides useful information and a set of tools on its website that can be used by anyone free of charge.

The underlying philosophy aside, Open Content is a licensing model that is based on copyright law. Copyright-protected works are made available to the public for, generally speaking, free and unhindered use. Being a licensing scheme, however, the Creative Commons licenses are not based on nor do they lead to the public domain.[1] On the contrary, they depend on copyright protection. Without copyright, such a license could not be effective, especially not when it comes to the enforcement of the license obligations.[2]

Licensing means to grant a third party (anyone else except the rights holder) the right to use a copyright-protected work. The license is, however, granted only under certain conditions and obligations on the user's side. Open Content licenses may, for example, oblige the licensee to credit the author with every use. This relation between right and obligation could be expressed as follows: "You are allowed to copy, share and republish this work provided you give credit to the author."

Open Content licenses are generally suitable for all kinds of creative work. The CC licenses, for example, are generic licenses which can be used for music, films, texts, images and any other aesthetic creation. However, they are not designed to license software. As technical products, computer programs require different license conditions. In fact, there are specific licenses for software (open source licenses). There are also specific licenses for other technical creations, such as databases.[3]

Open Content is sometimes described as an anti-copyright approach. This is not true. It is a model for rights holders to manage their copyright in a particular way. Open Content is not anti-copyright per se, but allows a licensor to take a different approach to the traditional "all rights reserved" model. Open Content licenses are tools that can be used to serve both the individual interests of the author and the public interest. However, it is up to each copyright holder to decide whether Open Content licenses suit their personal needs, and thus to decide for or against open publication.

2.2 Different Open Content License Models

Unlike free and open source software,[4] the term "Open Content" is not well-defined, i.e., there is no commonly agreed-upon definition.[5] This allows for a wide variety of divergent licenses. In this publication, Open Content licenses (also known as "public licenses") are assumed to be standard licenses that, at minimum, allow the licensee to distribute, make available to the public, and copy a work for noncommercial purposes by any means and on any medium, free of charge.[6] Of course, more permissive Open Content licenses that allow, for example, making and publishing derivative works or encouraging commercial use are also covered by this definition.

There are major differences between the different licenses when it comes to the creative use of the work, i.e., making modifications and distributing the modified versions or using the work for commercial purposes. While some licenses allow you to modify, translate, update, remix or adapt a work, others do not. Among those that allow modifications, some follow the "copyleft" principle, also known as ShareAlike (SA). Such clauses allow a modified version of an Open Content work to be shared and published only under the same license as the original. If someone modifies the work and publishes the new version, they must grant users exactly the same freedoms as the original work. The idea behind this principle is simple: An Open Content work remains open in all its manifestations and versions. Without the ShareAlike requirement, modified versions of the work could be published and distributed under proprietary licensing schemes. This could run counter to the original creator's intentions.[7]

2.3 The Benefits of Open Content Licensing

Using an Open Content license has several advantages. In addition to enabling much wider distribution of a work, it also increases legal certainty for users and significantly reduces legal transaction costs.

2.3.1 Broad distribution

The main objective of Open Content licensing is to enable wide distribution. Distribution is encouraged by granting more or less unlimited distribution rights as well as rights that allow the licensee to share the content. This is essential for legitimate sharing, as copyright law generally does not allow sharing protected content publicly without the explicit consent of the rights holder. This applies to both online and offline sharing. Open Content licenses allow users to upload the work to websites, blogs or any other web publication. Open Content can be shared on social media or posted on platforms. In addition, the licenses permit the production of hard copies of the work in any form, such as photocopies, CDs or books, and to distribute those copies to anyone without restriction (except for specific license restrictions, such as those in the noncommercial licenses).

The positive effect on the potential exposure of the work should not be underestimated. Without an Open Content license, sharing a work, for example, via another online source, would require an individual contractual agreement between the sharer and the rights holder. The same would apply if someone wanted to modify, remix or mash up a work with other works and publish the modified version: Under copyright law, all these uses require the individual consent of the rights holder. An Open Content license, by contrast, grants permission automatically.

Public license:
A legal tool that offers anybody a broad license to use a copyright-protected work under certain conditions without concluding an individual contract.

NonCommercial (NC):
An element of the Creative Commons license that excludes commercial uses of the work.

Derivative work:
A new work based on or derived from one or more existing works.

Modification:
Any alteration or change to an existing work, such as translations, adaptations or rearrangements.

Remix:
A new work created by combining and modifying existing works, often in music, video or art.

Copyleft:
A license clause that allows a modified version of an Open Content work to be shared and published only under the same license as the original. See also ShareAlike

SA (ShareAlike):
A license clause that allows a modified version of an Open Content work to be shared and published only under the same license as the original.

By facilitating the necessary legal transactions, Open Content licenses serve the interests not only of authors but also of the general public. In fact, authors and users benefit from the increasing amount of interesting creative content that can be accessed and used for many different purposes without the need to enter into costly and time-consuming individual license agreements or pay royalties. In other words, they benefit from the ever-growing "cultural, scientific, educational (...) commons" available for reception and/or creative use without complex legal transactions.

The public interest factor may or may not create incentives for authors to open their works. It may, however, be said that Open Content is especially relevant for public authorities which own copyrights in creative content, as they produce and publish works for the public interest and not for commercial purposes. As the costs for the creation and publication of said works are mostly borne by the taxpayers, Open Content publication strategies are particularly recommended for public authorities. They are an easy-to-handle approach to establishing a "public money – public good"[8] principle.

Nor is the Open Content approach necessarily altruistic from the perspective of private rights holders. Otherwise it would not be so successful. Open Content enables sharing, and thus decentralization and dissemination of sources. This is often more beneficial to the author than a restrictive distribution approach such as "all rights reserved". If the content is interesting enough to encourage other people to share it, it will, for example, be listed more prominently in search engines, thus gaining even more publicity.

This, in turn, may have a positive impact on the author's popularity and the demand for their works. It also brings about potential economic benefits: Attention is a scarce resource in the attention economy[9] which is so dominant in the digital age. In fact, attention is an essential economic factor. Attention leads to clicks, likes and followers, which lead to advertising revenues and/or other income based on increased recognition; increased recognition leads to higher demand and higher payment rates or salaries. Especially on the internet, more freedoms for the users and less control will often lead to higher revenues than "all rights reserved" paradigms.

In order to understand the full implications of this concept, it is essential not to confuse the term "open" with "cost-free" or "noncommercial". Free as in Free Software, as well as open in open source or Open Content, is not equivalent to "cost-free" but to "free-to-use". Public licenses aim to provide users with the necessary rights to use and share copyright-protected content as they wish. Under the terms of the public licenses, they are free to use the content, i.e., to copy, share, distribute and make it publicly available. In addition, there is no requirement to pay licensing fees. This additional paradigm: freedom of royalties (i.e., license fees) is intended to support freedom of use. Without it, many people would be excluded from use because they could not afford to pay the royalties. Freedom from royalties also makes use easier, because there is no financial transaction to agree and carry out.

However, this paradigm does not necessarily mean that Open Content must be free or can only be used for noncommercial purposes; nor does it mean that a creator or publisher cannot make money by making it available to the public. If that were the case, the open source industry could not exist.[10]

2.3.2 Increased legal certainty and simplification of legal transactions

Open Content licenses enhance legal transparency and certainty for both users and right holders alike. Legal certainty facilitates the use. Copyright is a complex issue: It is

difficult for a legal layperson to understand under what circumstances a work can be legally copied for private use, made available for educational purposes or quoted. In contrast, Open Content licenses, such as CC licenses, provide a plain-language explanation to inform users what they can do, what obligations they have, and what they should not do. These explanations are also useful for the licensor, who is generally not a legal expert (especially if they are the author), and who thus gets all the necessary information about the rules for using the material.

Another important benefit of Open Content licenses is the simplification of the legal transaction between the rights holder and the user. Open Content licenses are standardized tools which keep such transactions simple for both sides. Drafting and negotiating individual license agreements is a complex matter, usually requiring the involvement of lawyers. Donating copyrighted works to the commons in an international environment (the internet) is even more complex. As standardized, ready-to-use legal tools, Open Content licenses free creators and other rights holders from these complexities. In particular, the license texts published by major initiatives such as CC are carefully drafted by legal experts and then made available free of charge for use by interested parties.

2.3.3 Willingly giving up control

Open Content licensing requires a willingness to give up control over the use of one's work. Having no or very limited control is not necessarily a bad thing, but a feature of public licensing. In fact, the idea of having total control over the use of content is deceptive in most cases, especially in the case of internet publications, whether you take an "all rights reserved" or a "some rights reserved" approach. Once an article, image or poem is made available online, de facto control over its use usually disappears, even if you reserve all rights. In other words, the more popular the content becomes, the harder it is to control it effectively. It will be shared on the internet whether it is legal or not, unless drastic measures are taken - such as rigid technical protection measures (TPM)/digital rights management (DRM) or an extensive rights enforcement strategy that requires the use of lawyers, piracy agencies or other invasive methods.

Technical protection measures (TPM): Measures that restrict access to or the reproduction of a work by technical means.

Digital Rights Management (DRM): Technical protection measures that prevent digital content from being used or copied without permission.

The crucial choice of having or not having control is therefore inherently a question of going online or not going online. Especially when individual creators without sophisticated commercial interests and strategies decide to put their work on a publicly accessible website (this may be different for large corporations), it is a logical next step to release it under a public license. There is no denying that there are likely to be people who break the rules and do not respect either copyright or the Open Content license. However, for the many considerate users who are overwhelmed by the complexity of copyright law, the license provides not only freedom but also guidance.

Most people want to obey the law, but without clear information about the rules, they are doomed to fail. Can I download, share, print or embed online content? When it comes to copyright, most users will not be able to answer these questions. The Open Content license, on the other hand, guides the user through such issues by keeping the answers short and simple. For example, it might say: "You can use the content in any way you like, provided you give credit to the author, link back to the source, and attribute the license". Such license obligations are made clear in a way that the user can understand and comply with. The resulting legal certainty benefits not only rights holders but also users.

2.4 Legal Aspects and Practical Implication of Open Content Licensing

The following chapter describes in more detail how an Open Content license works in general and what the practical implications are. These aspects are usually relevant to all types of Open Content licenses. For more information specific to CC licenses, see chapters 3 and 4.

2.4.1 Comprehensive scope of the license grant

As mentioned above, Open Content is based on the "some rights reserved" paradigm. While most of the rights to use a work are licensed and thus permitted, some are reserved. In particular, this means that the author does not give up (waive) their copyright.

Open Content licenses offer any interested user the opportunity to obtain broad rights to use the content in any way, for any purpose, on any medium and without geographical or temporal restrictions. However, there may be restrictions (depending on the type of license) on commercial use or on modifications and transformations. This means, for example, that a novel published under a public license may be freely copied in digital or non-digital form within the restrictions of the applicable license. It can be scanned or otherwise digitized, uploaded to servers, stored on hard drives or downloaded. In copyright terms, all these uses are called "reproductions". The work may also be printed and (re)distributed, for example, as a book or e-book, or made publicly available on the internet. Music can be performed in public, poems can be recited and plays can be staged.

Open Content licenses are intended to facilitate the use of protected works, no matter where their use takes place geographically. The licenses are designed with this in mind: Because of their non-discriminatory nature, they are intended to apply on a worldwide basis.[11] In addition, licenses are granted for an indefinite period of time. Once a license is granted, it cannot be terminated or revoked.

The rights are also granted without payment or other consideration. This does not necessarily mean that the acquisition of a copy or access to the work is free of charge (see chapter 2.4.3 below), although this is usually the case.

License grant: The formal permission given to a user to exercise certain rights over a copyrighted work.

Reserved rights, i.e., exclusions from the license grant, come into play when a work is licensed under a public license that does not cover, for example, the right to share modifications of a work. Anyone wishing to exercise these "reserved rights" must enter into an individual license agreement with the rights holder. Authors, for example, may choose to use a noncommercial license in order to be able to decide on commercial uses on a case-by-case basis and to claim royalties if someone wants to make a profit from their work. If a licensor chooses a restrictive license (for example, a noncommercial license), this does not necessarily mean that they are opposed to uses outside the scope of the public license. Such uses are not prohibited per se, but merely excluded from the public license grant and therefore subject to an additional agreement with the rights holder.

2.4.2 Applicability to all copies of a work

A public license always applies to a particular work, not to a particular copy of that work. A work is an intangible creation that expresses the author's individuality. A photograph, text, musical composition or graphic design is a work. A music or image file, a book or a magazine are only tangible embodiments of the work, not the work itself.

In making a licensing decision, it is important to understand that the license applies to the work, not to a particular copy of the work. Failure to understand the difference between a work and a copy could lead to incorrect assumptions about the effect of licensing.

For example, it is a common practice to freely share low-resolution image files or low-quality music files under an Open Content license with the intention and belief that the rights to high-resolution versions of the same image or music production are not covered by the license. This strategy is based on the incorrect assumption that the license only applies to the low-resolution copy of the work. It is not the copy of the work that is licensed, but the work itself. The license applies to all kinds of copies of the image or song, regardless of their quality. Low-resolution and high-resolution versions of a photograph do not constitute different works, only different formats of the same work.

In other words: If low-quality copies are shared under an Open Content license, the license also applies to high-quality copies of the same work. Hence, it might be possible to restrict the access to high-resolution copies by paywalls or other technical protection measures. However, once a user gets hold of a high-resolution copy, they can share it under the terms of the CC license under which the low-resolution copy was published.[12]

2.4.3 No royalties

All Open Content licenses follow the "no royalties" paradigm. No royalties means that the rights to use the work are granted free of charge. It does not affect other possible sources of income. An example: The content of a book, i.e., the articles, pictures, illustrations, etc., can be Open Content, even if the book itself is sold. In this case, the buyer only pays the price for the physical hard copy, i.e., the purchase of the paper. The Open Content license applies to the content of the book, i.e., the use of the text, illustrations, graphics, etc. It gives a user the right to copy, distribute and make available the work without paying any royalties or licensing fees.

Consider another example from the online world: Access to an online Open Content repository may be fee-based, while the articles provided are published under a public license. In this case, the subscription fee is charged for the service, not for the rights to use the content. The subscription is therefore not a royalty; requiring it is not inconsistent with the "no royalties" paradigm.

Against this background, commercial business models can easily be reconciled with the Open Content idea. Those who wish to combine an Open Content publication strategy with a commercial business model are free to do so. Whether or not this is feasible must be evaluated on a case-by-case basis, taking into account the specifics of each case.

2.4.4 Conclusion of the license contract

A license is permission to use a copyrighted work in a way that would otherwise constitute infringement. Whether a license is a contract or a simple, one-way promise varies from jurisdiction to jurisdiction. But the general effect is the same: the license is a valid legal agreement that governs the use of a particular work. Uses that are not covered by the license, or that do not comply with the terms of the license, are illegal acts that can have legal consequences.

Concluding a public license is straightforward. As a first step, the licensor notifies potential users that their work can be used under the terms of a particular license. This is done by attaching a license notice to the work, including a link to the license text.[13] From a legal point of view, this act is considered an offer to the public (i.e., to any interested party) to use the work under the terms of the license. When a user uses the work in a way that triggers the license,[14] the license agreement is automatically concluded: the licensee receives the necessary permission to use the work lawfully, and the obligation to comply with the terms of the license comes into effect.

2.4.5 Preconditions for using Open Content licenses

In order to license a work as Open Content, the licensor must own all the necessary rights. A public license grants non-exclusive rights to use a work to any interested party. A non-exclusive license does not prevent creators and rights holders from granting further licenses for the same or other uses (often referred to as "dual licensing" or "multi-licensing"). For example, it is possible to grant a noncommercial, free-of-charge public license for general use and an individual license for commercial use of the same work by a particular licensee for a fee.

In order to grant the public license, the licensor must be the exclusive owner of all the rights covered by the public license. The holder of mere non-exclusive rights may not, depending on the jurisdiction, usually be able to sublicense the work to third parties. If the licensor is not entitled to grant these rights or is not sufficiently entitled to grant them, the license grant is null and void in whole or in part. As a result, the licensor commits copyright infringement by assuming rights that he or she does not actually have. Worse, all downstream users are copyright infringers, too. When a license grant is invalid, they are not entitled to use the work except under copyright exceptions.

Example: A publisher owns the exclusive print and physical distribution rights to a novel, but does not own the rights to make the content available online. In this case, the publisher cannot act as an Open Content licensor for the work, because the Open Content license would also cover the rights to make the content available online. By applying the Open Content license, the publisher would infringe the creator's right to make the work available by wireless means. The same applies to any Open Content licensee who would republish the novel online. Since the licensor is not fully entitled, the user cannot obtain full rights from them. Whether the licensor and/or the user actually knew or could have known about the lack of entitlement is irrelevant. Both infringe copyright.[15]

How does the licensor obtain the entitlement to act as a licensor? The initial owner of copyright is generally the creator.[16] If the author is the licensor, they can simply grant the public license. However, if a third party is to act as licensor, one or more contractual transfers of exclusive rights are required. If the rights are transferred repeatedly,

it is important to establish a consistent license chain so that the licensor is properly entitled. In other words, if a work is licensed several times from one party to another before it is published under a public license, all the license agreements in between must cover all the necessary rights and be valid.[17]

License chain: The sequence of licenses required when rights to a work are transferred multiple times.

2.4.6 Pitfalls of republications

The licensor must ensure that their Open Content license does not violate third parties' rights. In particular, republications of works that have already been published commercially may raise problems. Publications in a journal or newspaper, for example, often require the transferral of exclusive rights to the publisher. In such a situation, no second publication under an Open Content license is possible, except with the consent of the publisher. Otherwise, the creator would violate the exclusive rights of the publisher, notwithstanding their own authorship.[18]

2.4.7 Practical effects of using an Open Content license

As mentioned above, Open Content licensing combined with the decision to publish online is likely to lead to a certain loss of control. Anyone who wishes to copy, distribute, republish or otherwise use the work is not only able but also entitled to do so within the limits of the license. This allows for the "free flow" of the work. In addition, because the rights of use are granted royalty-free, the ability to make a direct profit after the content has been published is limited. Furthermore, the licensing decision is effectively irrevocable, at least for that version of the work. Licenses are granted on a permanent basis and cannot be terminated by the author or rights holder. If the rights holder decides to change the licensing model after initial publication, all licensing agreements entered into prior to the change remain valid. In other words, people who previously licensed the work can continue to use it under the original licensing terms.

All these factors indicate that the initial decision about the publication model or licensing scheme is very important. Although the rights holder is, in theory, free to revise any licensing decision at any time, alterations of the licensing strategy can effectively only be made in connection with major updates of the work. Hence, decisions for Open Content publishing in general, and the selection of a specific license in particular, must be made diligently.

2.4.8 Licensing modifications and derivative works

Open Content may be modified unless it is under a ND license, and the adaptations may be shared and republished. When distributing adaptations, a number of legal particularities must be observed.

Adaptations and derivative works have more than one author and rights holder. In addition to the copyright of the original work, the copyrights of the adapters also apply, because under copyright adaptations are considered dependent works. When adaptations or derivative works are publicly licensed, each contribution is licensed by its own rights holder.[19] With the exception of the SA licenses,[20] each adapter is free to choose which licensing rules apply to their contribution.

For downstream users, this means that modified versions may have multiple licensors and be subject to different licenses. The adapter's license applies to the adapter's contribution, while the original license applies to the original content. In this case, all license conditions must be met for all components of the licensed material.[21] This complexity

is not due to the concept of Open Content or licenses, but to the copyright system: It assumes that an adaptation always includes the original work.[22]

2.4.9 Enforcement of Open Content licenses

Open Content is not free of rights, and "openness" is not equivalent to "public domain". Under an Open Content license, if someone uses the work in a way which is not permitted by its terms, the rights owner can take legal action according to copyright and/or contract law.[23]

In addition, particularly the CC licenses contain a legal mechanism which ensures effective enforceability: the "automatic termination clause".[24] According to that rule, any license violation terminates the license automatically. Without a valid license, any further use constitutes a copyright infringement, which can give rise to claims for damages, injunctions and other legal remedies.

Automatic termination clause: A legal provision in Creative Commons licenses that automatically terminates the license when the license is violated.

Take, for example, an Instagram user who posts a photo licensed under a CC license without providing the copyright and license notices: This usage violates the license requirements and may thus be subject to contractual remedies as well as copyright claims (as the license is terminated automatically).[25]

2.4.10 The problem of license incompatibility

One of the main benefits of Open Content is that such works add to free culture. They are supposed to be combined with or integrated into other publications in order to be republished in a new context. License incompatibilities, however, threaten this objective of public licensing.

The term "license incompatibility" means that two or more works cannot be published as a combined work because of conflicting license obligations. License incompatibility is a natural, though undesirable, side effect of ShareAlike licenses in particular. These licenses contain the "copyleft" clause, which simply states that modified versions of the work can only be distributed under the license of the original.[26] In addition to direct interventions in the work (for example, shortening or translating an article), the term "modification" or "adaptation" can also apply to combinations of works, especially remixes or mash-ups.[27]

Imagine a photo artist who would like to publish a photo collage combining one image licensed under a CC BY-SA with another one licensed under a different ShareAlike license (for example, the GNU FDL). In this case, both licenses would have the same requirement, stating: "You may only share a combination or modification under my license terms." Unless the terms of both licenses are identical or at least equivalent in their content — which is very unlikely — the licenses are incompatible, and the combination cannot be shared. Obeying one license would inevitably result in infringing the other. The same effect might occur, depending on the particular situation and the interpretation of the respective licenses, if someone wishes to combine articles or graphics licensed under different licenses.

1 However, the CC initiative also provides instruments which mark content that has fallen into or should be considered as part of the public domain. These tools have to be distinguished from the licenses themselves. Waiving copyrights or marking particular content as "not protected", i.e., in the public domain, means giving up exclusive rights, whereas licensing means granting a right to use the work under certain conditions.

2 The legal explanation of this aspect is complex and varies from jurisdiction to jurisdiction. Put simply, exclusive IP rights such as copyright are enforceable against everyone (rights in rem), whereas a license or contract is binding only on the parties to it. The practical differences are considerable: For example, imagine that someone copies a work for commercial purposes that was licensed for noncommercial use only. The breach of the license could be enforced under copyright law or contract law. Contract law would require the infringer to be a party to the legal agreement. In contrast, under copyright law, anyone who infringes the exclusive rights of the rights holder could be held liable, whether or not there is a contractual relationship with the rights holder. This shows that remedies under copyright law tend to be much more effective than contractual remedies.

3 For example, the "Open Database Attribution" and "ShareAlike for Data/Databases-License" (ODbL), published by Open Knowledge, see: https://www.opendatacommons.org/licenses/odbl/.

4 For free and open source software there are two definitions. See the definition of the Free Software Foundation (FSF): https://www.gnu.org/philosophy/free-sw.html and the open source definition of the Open Source Initiative (OSI): http://www.opensource.org/docs/definition.php. Both definitions are by and large identical.

5 There are a variety of diverging definitions for Open Content (see, for example, http://opendefinition.org/od/), Free Content or Free Cultural Works (see: http://freedomdefined.org/Definition). However, unlike the free and open source software definitions, which may be regarded as de facto standard, none of the Open Content definitions seems universally accepted.

6 It is worth noting that this definition is broader than other understandings of "open". For example, according to the Open Knowledge Definition (see: http://opendefinition.org/od/), content and data are only "open" if they are subject to license terms that at most require the licensee to retain attribution notices and/or name the rights owner and source, indicate modifications and/or to share alike. The discussion about the notion of "open" is complex and multifaceted. Since this document is meant to explain the practical applicability of CC licenses, it shall neither be outlined nor commented upon here.

7 See more about the ShareAlike principle and its effects in chapter 3.5.4.

8 https://www.wikimedia.de/2019/en/themen/public-money-public-good/.

9 For further information on the term and concept, see: https://en.wikipedia.org/wiki/Attention_economy.

10 For details in relation to the freedom of royalties, see chapter 2.4.3.

11 See, for example, the license grant in section 2a of the CC BY 4.0 legal code: "Subject to the terms and conditions of this Public license, the Licensor hereby grants You a worldwide, royalty-free, non-sublicensable, non-exclusive, irrevocable license to exercise the licensed Rights in the licensed Material to ...".

12 See the CC FAQ on this aspect: https://creativecommons.org/faq/#can-i-apply-a-cc-license-to-low-resolution-copies-of-a-licensed-work-and-reserve-more-rights-in-high-resolution-copies and https://creativecommons.org/faq/#how-do-i-know-if-a-low-resolution-photo-and-a-high-resolution-photo-are-the-same-work.

13 In a book or other non-digital publication a hyperlink (or even better a QR code) could be printed. Alternatively, the license text itself could be included as a whole. For more information in relation to the practical questions of including license notices and similar aspects, see chapter 4.

14 Certain uses are permitted by statutory exceptions to copyright. Within their scope, the user does not need a license and is not bound by the terms of the license. For example, in most countries, quoting is allowed by law. Whether the quoted work is used commercially is irrelevant (for example, you can make quotes in commercial publications, such as books that are marketed). Since quoting does not require a license, the public license does not apply to such use. Thus it is allowed by law to quote from a work published under a noncommercial license. For more details, see chapter 3.4.5 below and the CC FAQ at https://creativecommons.org/faq/#how-do-cc-licenses-operate.

15 This might, however, be a relevant factor regarding remedies such as damages.

16 In common-law copyright systems, there are exceptions to this basic principle. For example, English copyright law contains a rule that the employer is the first owner of copyright in all works created by its employees in the course of their employment. US copyright law has a similar rule called "work for hire".

17 Unlike property rights in tangible goods, IPRs cannot generally be acquired bona fide (in good faith), i.e., IPRs can only be transferred if the transferor has all the rights to do so and is therefore properly entitled. Whether the transferee is acting in good faith in acquiring the rights by relying on the assurances of the transferor is irrelevant.

18 This is sometimes called "self-plagiarism"; see https://en.wikipedia.org/wiki/Plagiarism#Self-plagiarism.

19 This is because Open Content licenses, like CC licenses, do not allow sublicensing. See also the CC Wiki: https://wiki.creativecommons.org/wiki/4.0/Treatment_of_adaptations#Summary.

20 Here adaptations may only be shared and published under the original license. See chapter 3.5.4 below.

21 This can lead to the problem of license incompatibility, which is a particularly severe problem with SA licenses: They state that adaptations may only be distributed under the original or a compatible license. Typically, SA (copyleft) licenses are incompatible with each other. Therefore works covered by different SA licenses usually cannot be combined to be republished. See chapter 3.5.4 below for more details.

22 If this were not the case, for example, because the new work is so distinctive from the original that it is no longer recognizable, it would no longer be an adaptation in the copyright sense, but a free, new and independent work.

23 Concerning the differences between contract and copyright law remedies, see note 2 above.

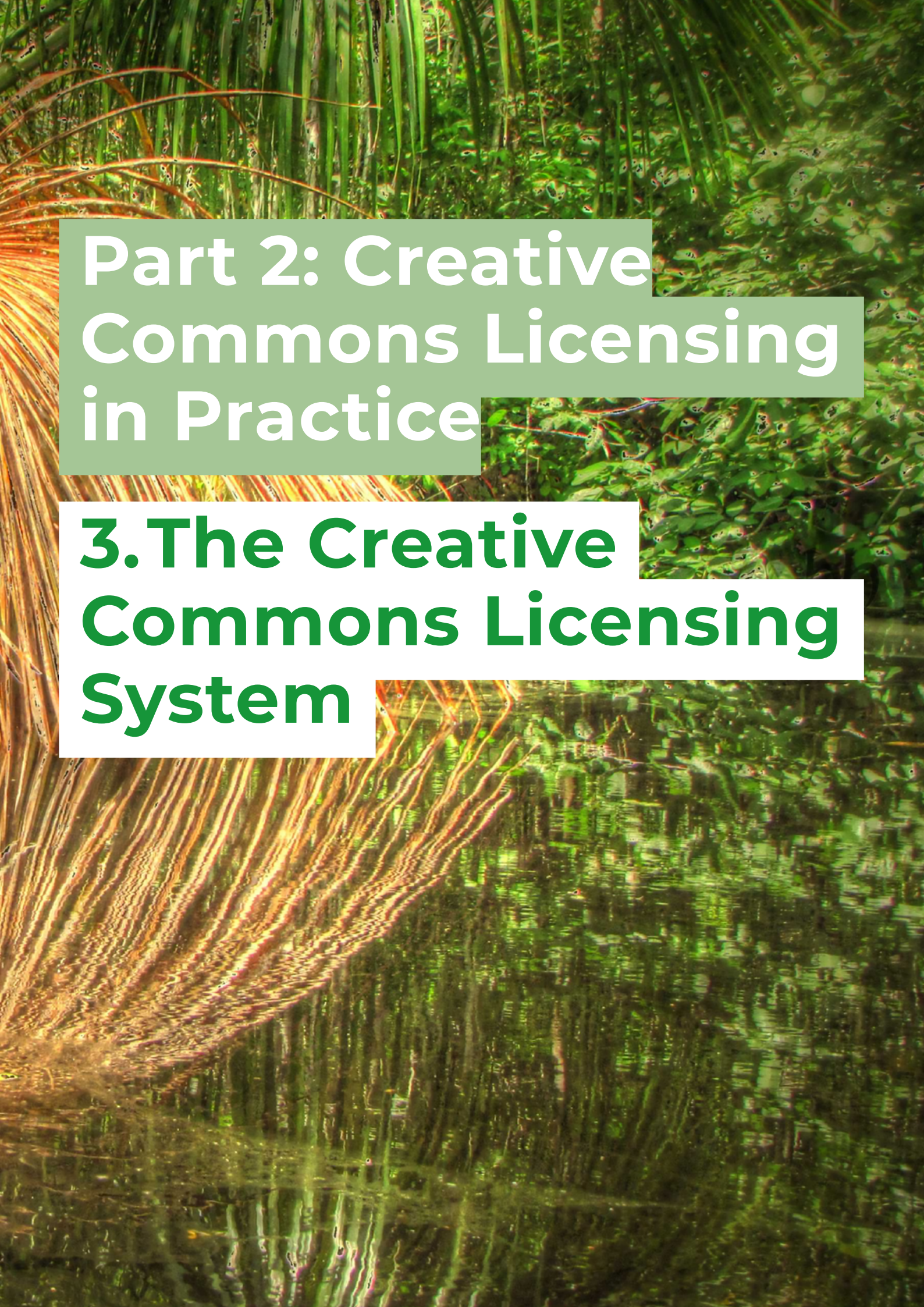
24 See section 6a of the CCPL4 legal code: https://creativecommons.org/licenses/by/4.0/legalcode and, for more detail, chapter 3.4.10 below.

25 The effect of this rule is that the license instantly becomes invalid at infringement. From that moment on, any use of the work that requires the permission of the copyright holder is a copyright infringement. In fact, under the CCPL4 license, it is possible for the infringer to reinstate the license (or enter into a new one) if they remedy their infringement. However, uses made in the interim, i.e., between the act of infringement and reinstatement, are not remedied. See: "License Term and Termination" in chapter 3.4.10 below.

26 The SA element is described in detail in chapter 3.5.4 below.

27 The CCPL4 license defines adaptations as follows: "Adapted Material means material subject to Copyright and Similar Rights that is derived from or based upon the licensed Material and in which the licensed Material is translated, altered, arranged, transformed, or otherwise modified in a manner requiring permission under the Copyright and Similar Rights held by the Licensor." See section 1a CCPL4: https://creativecommons.org/licenses/by-nc-sa/4.0/legalcode.



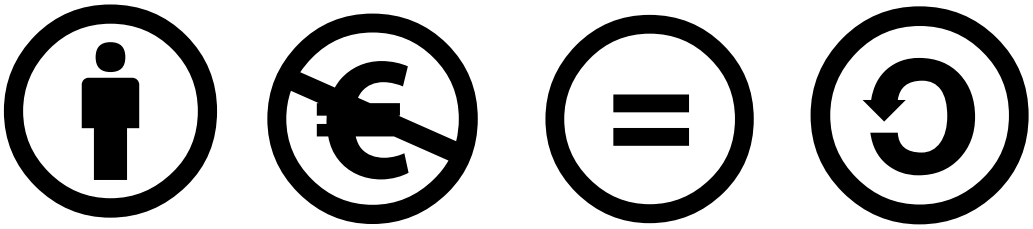


Part 2: Creative Commons Licensing in Practice

3. The Creative Commons Licensing System

CC is by far the most widely used Open Content licensing model. Because of its popularity and widespread use, CC can today be considered the de facto standard for Open Content licensing.[28]

Figure 1:
Pictograms of the CC license features



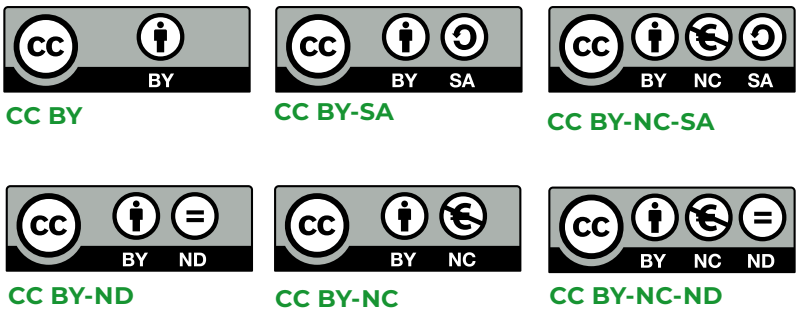
3.1 Overview of the Creative Commons License Suite

To meet the varying needs of different personal preferences and publishing strategies, CC provides a set of six licenses and two public domain tools. Each license contains at least one of four basic elements (the "License Elements"), illustrated by abbreviations and pictograms.[29] The four elements are:

- **"BY" (Attribution):** the obligation to credit the author and other parties designated for attribution
- **"NC" (NonCommercial):** commercial use is excluded from the license grant
- **"ND" (NoDerivatives):** only identical copies of the work can be shared
- **"SA" (ShareAlike):** the work can be modified and modified versions can be published but only under the original or a compatible license

These four license elements form the basis of a license suite that provides six CC licenses. The most permissive license is CC BY. It grants unrestricted, irrevocable, royalty-free, worldwide, perpetual rights to use the work in any way, by any user, for any purpose. The only requirement is that the user gives credit to the author and other parties designated for attribution and retains all copyright and license notices. All other license versions contain additional restrictions. The most restrictive license is CC BY-NC-ND. It does not allow modification or commercial use. This chapter gives a brief overview of the different types of CC licenses. The different license elements, restrictions and obligations are explained in more detail in chapter 3.5 below.

Figure 2:
The six variations of CC Licenses



CC BY
CC BY-SA
CC BY-NC-SA
CC BY-ND
CC BY-NC
CC BY-NC-ND

3.1.1 CC BY (Attribution)

CC BY is the most permissive CC license. It grants an unlimited license to use the work. Any use of the material is permitted, regardless of whether in original or modified form, by whom, and for what purpose. In return, licensees are required to provide certain information about the work and its author(s). In particular, according to the CC licenses version 4,[30] they are required to name the author and/or licensor, cite and link to the applicable license, and give credit to the original source (see section 3.a CCPL4).[31]

Such obligations are an essential part of the Open Content approach. Attribution duties serve to give the authors the recognition they deserve and to secure certain desired reputational effects.[32] Also, some of the information obligations are necessary for the licensing model to function legally.[33] For these reasons, all CC licenses contain the BY element.

3.1.2 CC BY-SA (Attribution-ShareAlike)

As the general license of Wikipedia, CC BY-SA is one of the most important and widespread CC licenses. Licensors who wish their content to be uploaded onto Wikipedia or intend to combine it with Wikipedia content are advised to use CC BY-SA or more liberal licenses like CC BY or CC0.

The only difference between CC BY-SA and CC BY is the ShareAlike clause in section 3b of the CCPL4 BY-SA legal code and related definitions in section 1. Under the CC BY license, anyone who adapts the work can adapt the licensed material and share and/or publish the new version under the terms of their choosing. CC BY-SA, however, binds the adapter to the terms of the original license. If the downstream user wants to share an adapted version, she has to use CC BY-SA or a compatible license for their adaptation.[34]

3.1.3 CC BY-ND (Attribution-NoDerivatives)

The CC BY-ND license does not permit sharing adaptations of the work[35]. To protect its integrity, only identical copies may be distributed and shared.[36]

3.1.4 CC BY-NC (Attribution-NonCommercial)

CC BY-NC reserves the right to use the content commercially, i.e., uses for commercial purposes are not licensed. The corresponding restriction can be found in section 2.a.1 of CCPL4.[37]

3.1.5 CC BY-NC-SA (Attribution-NonCommercial-ShareAlike)

The CC BY-NC-SA combines the NonCommercial and the ShareAlike features. Under these license terms, the work may be adapted, and adapted versions can be shared under the conditions referred to in chapter 3.1.1 above. However, no commercial use of the licensed material is permitted, neither of the original nor of any modified form.[38]

3.1.6. CC BY-NC-ND (Attribution-NonCommercial-ShareAlike-NoDerivatives)

The CC BY-NC-ND is the most restrictive CC license. Neither modifications nor commercial uses are licensed. The general obligations mentioned in 3.1.1 above also apply to this license.

3.2 Creative Commons Public Domain Tools

When using an Open Content license, the rights holder reserves some rights. They do not waive nor otherwise extinguish their copyright, but merely grant permission for others to use the work under certain conditions. In contrast, works in the public domain are not (or no longer) protected by copyright and may be used without restriction by law. No permission — no license — is required. The CC provides two tools for marking public domain material: the CC0 (No Rights Reserved) declaration to dedicate your own works to the public domain, and the Public Domain Mark to label works that are already out of copyright (for example, because their term has expired or because they were never protected in the first place).

3.2.1 CC0 (No Rights Reserved)

CC0[39] is a tool to deliberately dedicate copyright-protected works to the public domain. It is essentially a waiver of rights. Once it is in effect, a work belongs to the public domain and can be used by anyone without any restrictions or obligations.

CC0 is a mature and well-thought-out tool that takes into account the different legal systems of the world. Copyright systems and systems of authors' rights provide very different answers to the question of whether, and to what extent, authors may waive their rights as an author and/or their copyright. In authors' rights systems such as those in Germany, France or Austria, it is generally not possible to waive the right completely, that is, to give up one's ownership of a work. Authors' rights are treated as a kind of human right which can be neither waived nor transferred. Hence, in authors' rights regimes such as these, a simple waiver would probably be invalid.[40]

Copyright waiver: The voluntary relinquishment of the copyright by its owner by means of a declaration such as CC0.

To avoid this dilemma, and to ensure its worldwide validity, CC0 was designed as a three-tier instrument. In essence, CC0 is a copyright waiver. The idea behind the three-tier approach is the following: If such a waiver is not valid under the applicable law, a second option comes into effect, and if that proves ineffective as well, the third option comes into force.

The first fallback option is a permissive license similar to CC BY but without the attribution requirement.[41] It is therefore a license without any restrictions or obligations. In the second fallback option, CC0 is a legal construct usually referred to as a "non-assertion pledge". It is a legally binding promise by the rights holder not to enforce their rights in any way, even if they have the legal ability to do so, because the waiver and/or license are not valid.[42]

Non-assertion pledge: A promise made by a licensor not to enforce certain rights, even if they technically retain them.

3.2.2 Public Domain Mark (No Known Copyright)

In contrast to CC0, the Public Domain Mark (PDM) is not a declaration but rather a label for works which are already in the public domain. This can be the case, for example, after expiration of copyright. Copyrights and authors' rights are granted for only a limited timespan. In Europe, for instance, the rights terminate 70 years after the author's death. After this term, the work is considered to be in the public domain and can be used without restriction. Another application scenario for the PDM is to mark material that is not eligible for copyright protection. It is useful, for example, for marking data and data records.[43]

The purpose of the PDM is to allow anyone to clearly identify that the material is in the public domain. In many cases, the copyright status is not obvious. The PDM gives guid-

ance on this uncertainty. When the mark is applied responsibly, a thorough investigation of the legal status of the work may be required before the PDM may be applied to a work. Calculating the exact term of protection can be difficult, especially given the different rules in different jurisdictions. Tools such as the Europeana Public Domain Calculators can help.[44]

Term of protection: The period of time during which copyright protection exists. When copyright on a work expires, the work enters the public domain.

CC provides a logo for the PDM and a tool on its website that generates a HTML code snippet which can be used for public domain content available online. This code is particularly useful because it allows search engines to detect public domain content on the web.

3.3 Generic and Ported License Versions

Over the years, the CC initiative has constantly developed, modified and modernized its licenses. The current version, CC 4.0 (hereinafter referred to as CCPL4), was published on November 26th, 2013. The CC public license Version 3 (CCPL3) and CCPL4 differ in a number of ways; they contain sometimes subtle, although often important, differences.[45]

CC material is always licensed under one specific license version unless the license is manually changed or upgraded. Unlike some FOSS licenses, the CC licenses lack a clause specifying "any later version".[46] Hence, they lack an automatic upgrade mechanism to newer license versions. If an image, for example, is initially licensed under CC BY 2.0, the licensor would have to manually upgrade to CC BY 4.0 if they wanted the newest license version to apply.

License Ports

The CC licenses were originally designed with US copyright law in mind. However, Creative Commons was not intended to be a purely US project, but rather an international initiative to promote the cultural commons worldwide. Soon, growing global interest in the CC licenses led to a discussion about the need for more versions based on other jurisdictions.[47] In 2003, CC launched an international license porting project called "Creative Commons International." In this sense, "porting" does not mean only translating but also adapting the rules linguistically and legally to a particular jurisdiction. The aim was to adapt the CC licenses to numerous jurisdictions worldwide and to better ensure their enforceability abroad.[48] Aside from these ported versions, CC offers international (also known as "unported" or "generic") versions of their licenses.[49]

Unported license: A Creative Commons license not adapted to a specific jurisdiction, intended for global use.

Legal language as well as regulations differ from country to country. Licenses based on US law may thus be partly invalid in other parts of the world. For example, the liability and warranty disclaimers in the original US CC licenses are invalid under European law.[50] If a license clause is invalid, complex questions arise. Such complexities may lead to legal uncertainties which might prevent organizations and individuals in the public sector from using the licenses, or material licensed under them, in the first place.[51]

To prevent this situation, the international CC project established a network of affiliate organizations to port the licenses to their respective jurisdictions. CCPL3 was ported to more than 60 jurisdictions. With CCPL4 this approach has been abandoned. In the launch notification for CCPL4 the CC officials contend that CCPL4 does not need to be ported at all. In the current version of the FAQ, CC states:

"As of version 4.0, CC is discouraging ported versions, and has placed a hold on new porting projects following its publication until sometime in 2014. At that point, CC will reevaluate the necessity of porting in the future. [...] We recommend that you use a version 4.0 international license. This is the most up-to-date version of our licenses, drafted after broad consultation with our global network of affiliates, and it has been written to be internationally valid. There are currently no ports of 4.0, and it is planned that few, if any, will be created.[52]

This statement has not changed over the last ten years. Hence, it is unlikely that CC is still considering porting CCPL4 to specific jurisdictions. However, this does not mean that the ported versions are no longer relevant; for various reasons, older CC versions are still widely in use. For example, many licenses are not manually updated by their rights owner. Since, as already mentioned, the CC licenses do not contain an "any later version" clause, the license does not update automatically. Also, some stakeholders (especially governmental institutions) tend to prefer older ported license versions rather than mere translations of the newest international license.

Ported licenses: Licenses adapted to the legal system of a specific country to better reflect local legal conditions.

Translations

As of today, CCPL4 has been translated into over 36 languages.[53] The eventual target of the international community is to have 44 translations in key languages available. As of 2022, 89% of these translations were complete or underway.[54]

Ported and unported versions and translations in adaptations

A work that has been modified several times could be subject to several different license versions in a later version. This is possible even if it was originally published under a ShareAlike license. The ShareAlike clause allows the contributor (adapter) to use not only the original license but also a compatible license for their version.[55] Compatible licenses might be ported versions of the same license or later versions of the same license. For example, the adapter of a work originally released under CC BY-SA 3.0 might release their newer version of the work under CC BY-SA 4.0. Alternatively, if the original license was CC BY-SA 3.0 Unported, they might choose a CC BY-SA 3.0 France license for the derivative work.

Attribution (BY): An element of the Creative Commons license that requires attribution of the author when the work is used.

NonCommercial (NC): An element of the Creative Commons license that excludes commercial uses of the work.

NoDerivatives (ND): An element of the Creative Commons license that only allows the distribution of unaltered versions of the work.

SA (ShareAlike): A license clause that allows a modified version of an open-content work to be shared and published only under the same license as the original.

Importantly, any adaptation of a work still contains the original work. From a legal point of view, the adapter can only license its modifications; unmodified parts of the work remain under the original license. Without a legal solution provided by the license, the adapter may not relicense the work as a whole.[56] This could lead to a confusing situation where the user of a repeatedly modified work has to comply with multiple licenses at the same time.

The CCPL4 introduced a rule that offers a simple solution for this problem: The user of the modified version is bound only to the "adapter's license" most recently attached to the given version of the work.[57] Former licenses applicable to earlier versions of the work become obsolete.[58]

3.4 General Creative Commons License Features

All CC licenses share a standard set of almost identical general rules, explained below. The special license elements "Attribution (BY)", "NonCommercial (NC)", "NoDerivatives (ND)" and "ShareAlike (SA)", will be elaborated in detail in chapter 3.5. below

3.4.1 Scope of the license grant

The license grant clause in section 2a of CCPL4 differs slightly across the different license versions. What they have in common is that a non-exclusive, irrevocable, royalty-free and worldwide license is granted to share and copy the licensed material, irrespective of the kind of use. In other words, the material can be used with any technology and on any media whatsoever. It can be reproduced and/or copied in any form (digital or non-digital) and on any media (for example, hard disks, paper, servers, etc.). It can be uploaded to and downloaded from servers, saved into databases and on cloud storage. It may also be shared by any conceivable means, for example, over the internet, in social media, on platforms, as hard copies (CD, paper, etc.) and via email. As of CCPL4, the license grant covers uses under copyright and all neighboring (related) rights, including database rights.[59] However, patent and trademark rights are not covered by the license.[60]

Trademark rights: The rights associated with a symbol, word or phrase legally reserved exclusively for use by a single entity.

Obviously, the license grant differs regarding commercial and noncommercial uses. The NC element reserves the right to commercially exploit the material for the rights holder.[61] Also, the right to share modified and/or adapted versions of the work differs between the ND versions and the other licenses. The ND licenses allow only the creation of modifications and do not grant the right to share adapted material. The rights owner can therefore decide on a case-by-case basis and may make this permission dependent on conditions such as the payment of license fees.[62]

The license does not grant sublicensable rights.[63] This concept is common among open licenses: Only rights owners grant licenses. If the material has more than one rights owner, for example, two or more adapters who modified the original work, each of them individually licenses the rights in their contribution to the downstream users.[64] This construction prevents complex license chains.[65]

Open license: A license that allows users to freely copy, modify and distribute a work, often under specific conditions.

3.4.2 Application of the license to database rights and other related rights

Material published under CC licenses may be protected by various intellectual property rights (IPR). Such rights may also exist cumulatively on the same protected subject matter. Take, for instance, a music file: Authors' rights protect the composition and the lyrics, while neighboring (related) rights protect the sound recording and the performance of musicians and singers. The CCPL4 licenses apply to all copyrights and related rights.[66]

Related rights: Rights similar to copyright, including the rights of performers and broadcasters in sound recordings and databases.

In section 1.c of CCPL4 "similar Rights" are defined as "rights closely related to copyright, including, without limitation, performance, broadcast, sound recording, and sui generis database rights, without regard to how the rights are labeled or categorized."[67]

Sui generis database rights: An intellectual property right related to copyright granted in the EU to protect investments in databases. It grants the maker of a database a limited exclusive right to defend against the extraction of substantial portions of the database.

Since CCPL4, the CC licenses are also suitable for licensing databases.[68] Section 4 of those licenses even explicitly addresses sui generis database rights.[69] It clarifies that they are covered by the general license grant in section 2.a of CCPL4. If the licensed material includes a protected database, it is permitted to extract, copy, reuse and share it in whole or in part.[70] Unlike some ported versions of CCPL3, the CCPL4 license requires the user to comply with the license obligations when they use a protected database.[71]

Reuse: The use by a third party of a previously created work.

Whether these rights are granted depends on the decision of the licensor. For example, it is theoretically possible to license elements of the database (the datasets) but not the database itself. The database and its contents are separate objects of protection, so they

can be individually licensed.[72] If the licensor wanted to restrict the license to one of these two elements (the content of the database or the database itself), they would have to clearly identify which elements are covered by the license and which are excluded.[73]

The license obligations and restrictions are equally applicable to the database rights.[74] If, for example, a protected database was licensed under a NC license, the reuse, sharing, copying, etc., would only be permitted for noncommercial purposes. If it was licensed under an ND license, it would not be legal to take substantial portions of the database and incorporate them into another database.[75] If the database was licensed under an SA license, any user-created database which included a substantial part of the original database would have to be licensed under the same or a compatible license.[76]

3.4.3 Patent and trademark rights

Patent right: An intellectual property right that grants the inventor exclusive control over the use, production and sale of their invention for a limited time, preventing others from using it without permission.

Until version 4, patent rights were not mentioned in the CC licenses. Older versions contained neither a reservation of rights in this regard nor an explicit license. For the older license versions, it can be assumed under some jurisdictions that patent and trademark licenses are implicitly covered by the license grant[77] if and to the extent that they are needed to use the material in accordance with the copyright license.

However, under section 2.b.2 of CCPL4, patents and trademarks are expressly not licensed. Therefore, it is very questionable whether an implied patent or trademark license can be presumed under these licenses.[78] If no implied license can be assumed, users may need to check on a case-by-case basis whether there are any patent or trademark rights, whether their use would infringe such rights and, if so, whether so doing would require that they obtain appropriate licenses. It is by no means a general rule that patent or trademark rights are affected by the reuse and sharing of CC material. For example, a CC-licensed book published under a registered trademark of the publisher may be copied and distributed to the public without affecting the trademark. Still, no licensee would be allowed to use the trademark in any way other than to share the book. They could not promote their own works under the trademark, nor could they claim that the trademark owner had consented to the publication of their own modified versions. This is further ensured by the obligation to identify modifications.[79]

3.4.4 Moral rights, privacy and personal rights

Moral rights protect the personal bond between an author and their work. Among others, moral rights include the right to first publication, the attribution right and a protection right against distortions of the work ("right of integrity"). The design of moral rights varies greatly internationally. Many continental European countries (like France and Germany) have strong, non-waivable moral rights that are only negotiable to a certain extent, whereas in the UK and US, these rights are more flexible. They can be largely restricted or completely excluded by contract.

Moral rights: Moral rights protect the personal bond between an author and their work, such as the right to first publication, the attribution right and the right to protection against distortions of the work.

The international differences regarding moral rights challenge the concept of unitary public copyright licenses which are supposed to be valid and enforceable all over the world. Hence, moral rights were once a major motivation for porting the CC licenses to other jurisdictions. License ports from countries with strong moral rights protection contain special clauses stating that moral rights are not affected by the license.[80] The CCPL3 Unported version did not address this aspect in any way.

As CC began to abandon the idea of license ports in CCPL4, a new concept was needed to deal with moral rights. The license text (section 2.b.1 of CCPL4) states: "Moral rights,

such as the right of integrity, are not licensed under this Public license, nor are publicity, privacy, and/or other similar personality rights; however, to the extent possible, the Licensor waives and/or agrees not to assert any such rights held by the Licensor to the limited extent necessary to allow You to exercise the licensed Rights, but not otherwise."

The intended effect is to waive moral, personal, privacy and other such rights to the maximum extent possible under applicable copyright law.[81] This is intended to ensure the exercise of the licensed rights.[82] However, the waiver's scope is limited, covering only what is necessary to be able to use the licensed material.

This approach leaves it up to applicable law to decide how far personal and moral rights can be waived and how far they remain in force. For example, whether it is legitimate to use a CC-licensed song in a pornographic film or CC-licensed photographs in a political campaign will vary from jurisdiction to jurisdiction.[83]

To give an example: If a political group wishes to use a CC licensed song for their political campaign, the moral rights of the composer may be affected (depending on the applicable law). Despite the CC license, particularly in jurisdictions with strong moral rights protections, authors will usually be able to prevent such uses if they would harm their honor or reputation.[84]

Whereas the licensor waives her own publicity, privacy, or personality rights to the maximum extent with the CC license, third party rights of this kind are not affected at all.[85] If photos or videos of people are published online without their permission, this infringement cannot be remedied by reusing them according to a public license. To share such photos legally, the licensor must obtain the necessary consent where personal rights are involved. If the licensor fails to do so, redistribution of the material by a downstream user would also be an infringement. The injured party can hold both the licensor and the licensee liable.[86]

Personal rights:
The legal protections and freedoms granted to individuals, safeguarding their privacy, dignity and autonomy from unwarranted interference or harm.

3.4.5 The relationship between the public domain, copyright exceptions and CC licenses

CC licenses do not apply within the scope of statutory copyright exceptions. Statutory user rights therefore take precedence over the license. See section 2.a.2 of the CCPL4 legal code: "For the avoidance of doubt, where Exceptions and Limitations apply to Your use, this Public license does not apply, and You do not need to comply with its terms and conditions." In addition section 8a of CCPL4 states: "For the avoidance of doubt, this Public license does not, and shall not be interpreted to, reduce, limit, restrict, or impose conditions on any use of the Licensed Material that could lawfully be made without permission under this Public license." The CCPL4 license deed emphasizes that this also applies if, and to the extent that, licensed material is in the public domain: "You do not have to comply with the license for elements of the material in the public domain or where your use is permitted by an applicable exception or limitation."[87]

The described concept leads to the following effects:

Fair use:
An exception in US copyright law that allows the use of protected works under certain conditions without permission from the rights holder.

- → The license does not apply to uses that are subject to statutory exceptions (limitations, fair use). Here, the license obligations need not be observed. However, depending on the respective provision, statutory rules may apply (such as citation obligations for quotations).
- → Statutory permissions take precedence over the license.

→ License terms and conditions do not apply to licensed material or elements thereof that are in the public domain. When applied to unprotected content (such as raw research data consisting only of facts or information), the license is void, and license obligations are not triggered.[88]

An example case for the practical implications: Under US copyright, as well as the German Copyright Act[89], transformative works such as remixes can be legally shared under certain circumstances. Under German copyright law, this kind of use ("pastiche") does not even require attribution. Suppose someone creates a pastiche by mixing several third-party works with their own content. Even if those third-party works would be licensed under CC, there would be no attribution obligation. The statutory provision trumps the license, which is not applicable in this case.

3.4.6 License conclusion and effectiveness of license obligations

The CC license is automatically granted when someone uses the material in a way that would require permission (a license) under copyright or related rights.[90] This means that the licensees get the license only when such a license is needed.[91] For this concept to work, there are a few prerequisites: Firstly, the licensor must own all the necessary rights.[92] Secondly, for the license to be effective, the downstream user must be able to review the license text. This explains the importance of the obligation to indicate a license in its specific version and to retain the license notices supplied by the licensor.

3.4.7 Distribution and sharing with the public: The trigger for license compliance

CC license obligations are only applicable when the licensed material is "shared".[93] This means that, unless the material leaves the personal, private or internal sphere, the obligations are not triggered, and compliance is not an issue. Uses for internal or personal purposes only are therefore permitted without conditions.[94]

Simply put, "sharing" means conveying the material to members of the public. The meaning of "the public" in this context is a very important issue. It determines the applicability and enforceability of the license, as the following examples may illustrate:

1. A user posts a modified ND photo on her wall, visible only to her friends. If her friends are considered to be the public, she violates the license terms. If they are not considered the public, she complies.

2. A parent company modifies a training manual originally published under a CC BY-SA license to include proprietary processes and internal policies. It then distributes the manual to its subsidiaries. If distributing the modified manual to subsidiaries is considered public use, the company must license the modified version under the same CC BY-SA license, allowing others to share and adapt it under the same terms. If sharing the manual with subsidiaries of the company group is considered internal use, however, the ShareAlike obligation is not triggered. The company may reserve all rights in her version and can restrict its use to internal purposes.[95]

3. A professor creates a lecture presentation using modified ND images and shares it on the university's learning management system (LMS), accessible only to students enrolled in the course. If sharing on the LMS is considered public, the professor violates the license terms. If the LMS is seen as a non-public space, the professor

may share the images with her students: The ND licenses permit producing modified versions and sharing them within private (non-public) groups.[96]

4. A nonprofit organization creates a newsletter using modified ND graphics and sends it via email to its members. If emailing the newsletter to members is considered public distribution, the organization would violate the license terms by altering and distributing ND graphics publicly. If the members are considered a private (non-public) group, the distribution remains within the bounds of the license terms.

So what is the exact meaning of public? CCPL4 licenses do not explicitly define "public". Its interpretation is thus subject to the applicable law and court decisions, and it will vary between jurisdictions.

In European copyright law, "public" generally means that a work is made available to people in general, not limited to a private group. Although the term is not precisely defined in European copyright law, the European Court of Justice (ECJ) has dealt with it in many cases and has provided guidance for its interpretation. The relevant aspects can be summarized as follows:

- **Public perception:** Making a work perceptible to persons in general, i.e., not restricted to specific individuals belonging to a private group.[97]
- **Size of the audience:** The term implies a large number of people who have access to the work either simultaneously or in succession.[98]
- **Monetary profit:** Whether the user profits from the use is relevant.[99]
- **Deliberate audience:** Whether the work was deliberately addressed to a public group is relevant.[100]
- **New audience:** Requires targeting a "new public," an audience not considered by the copyright holders during the initial communication.[101] This means, for example, that hyperlinks to works which are already made available online to the general public (i.e., without technical restriction) cannot be considered a "new" communication nor an act of making that work available to the public.

Although these rules help, the EU copyright acquis lacks a unitary concept of public communication. For example, it remains unclear whether uploading protected material to a company's intranet for employee access is public. Such questions need case-by-case assessment with regard to the applicable law. Some examples may give guidance, but there are countless other scenarios that must be individually assessed.

Private sphere examples:

- Watching a movie with friends.
- Sharing a text via email with close colleagues.
- Making a Dropbox folder available to a small, selected group.
- Sharing with a selected, personally connected user group via social media.
- Distributing material within a single company.

Public sphere examples:

- Any online activity aimed at the general public, regardless of intent (commercial or noncommercial).
- Sharing publicly or with a large list of contacts (including rather loose contacts) via social media or email.
- Sharing between independent companies. (This is less clear when sharing between different companies within a group.)[174]

3.4.8 Disclaimer of warranties and limitation of liability

In section 5 all CCPL4 licenses contain a comprehensive disclaimer of warranties and liability. This means that the work is shared "as is" and that the licensor accepts no liability for any damage, loss or other harm that may result from use of the work.

However, under European tort law and other regulations, it is not possible to fully exclude all liability for damages and negligence.[102] Section 5.c of CCPL4 is thus intended to ensure that in the case of mandatory statutory law imposing minimum liability standards, the liability is reduced to the lowest possible level under the applicable law.

Whether such a severability (or salvatory) clause can sustain a most probably ineffective liability clause is arguable. However, even if the liability rules in CCPL4 were considered invalid, the liability for damages arising from the provision of CC material (and Open Content in general) would most likely be minimal. Although the actual standard of liability will vary from jurisdiction to jurisdiction, all liability regimes will likely consider the fact that Open Content is shared without compensation. The contractual liability for contracts without consideration is generally very limited. Under German law, for example, the prevailing opinion among legal experts is that the statutory liability for public licensing is equivalent to the liability for gifts. The level of liability is therefore the lowest possible under German contract law.

Warranties: Guarantees or assurances that are often excluded in public license agreements.

3.4.9 Prohibition to apply technological protection measures (TPM)

Due to a mandatory provision in the European "InfoSoc" (Copyright) directive[103], the circumvention of effective TPMs and Digital Rights Management systems (DRM) is prohibited under any circumstances in all EU member states. This means, for example, that no-one may copy a copy-protected work by circumventing the TPM, not even for private copying or quoting. The circumvention of TPM controlling access to copyrighted works is also prohibited according to Section 1201 of the US Digital Millennium Copyright Act (DMCA).

Section 2.a.4 of CCPL4 clearly states that TPM protection shall not be effective for CC-licensed works. The effect is that any licensee is allowed to conduct whatever technical modification of the copy of the work is needed to be able to use it according to the license terms, even if it requires the circumvention of an effective TPM.

This rule corresponds to a prohibition clause in Section 2.a.5.B of CCPL4[104]. According to this rule, downstream users may not apply technological protection measures to the licensed material if doing so would restrict exercise of the rights of use under the CC license. The meaning of this in practice is very unclear. The CC FAQ explains:[105]

"Not all kinds of encryption or access limitations are prohibited by the licenses. For example, sending content via email and encrypting it with the recipient's public key does not restrict use of the work by the recipient. Likewise, limiting recipients to a particular set of users (for example, by requiring a username and password to enter a site) does not restrict further use of the content by the recipients. In these examples, these things do not prevent the recipient from exercising all of the rights granted by the license, including the right to redistribute it further."

The clause raises considerable problems of interpretation in all situations in which licensed material is reused in a way for which, for technical or other reasons[106], unhindered reuse is not possible. For example, it is questionable whether a CC-licensed image may be integrated into a mobile game or app. As a rule, apps and their components cannot be freely copied and distributed. The same is true for many self-contained technical environments where content cannot be easily accessed, extracted or copied. Examples include embedded or infotainment systems in vehicles such as cars, aircraft and locomotives. When and in what cases such restrictions are prohibited under section 2.a.5.B of CCPL4 is a largely unsolved problem. The interpretation will depend on the particular case, and the answer will vary from jurisdiction to jurisdiction.

3.4.10 License term and termination

CC licenses are granted for an indefinite period of time,[107] that is, until the copyright or other related rights in the material expire. After all rights have expired, the material becomes part of the public domain, and there is no longer a need for a license. It becomes obsolete.

Furthermore, the license is irrevocable,[108] i.e., the licensor cannot actively terminate the license agreement. However, the license will terminate automatically if the license terms are breached.[109] If the license is terminated due to a breach of the terms of the license, the user is not entitled to use the material anymore. This lack of entitlement means that further uses constitute unlawful copyright infringements. They may result in legal action, claims for damages and injunctive relief.

For example, if a user failed to attribute the author when sharing licensed material, they would forfeit their right to use the material. Without a license, they would be liable for copyright infringement, just as any other person who uses a protected work without permission. Licenses of third parties, however, are not affected by such a termination.[110] If the license is terminated, CCPL4 offers two possible routes to reinstate it.[111] According to section 6.b.1 of CCPL4, the license is reinstated automatically if the infringing licensee remedies the violation within 30 days after they discovered it or were informed of it by the licensor or anyone else. Alternatively, the licensor can reinstate the license expressly (section 6.1.b CCPL4). However, the user is liable for unlicensed uses in the meantime (after termination and before the license was reinstated).[112]

3.4.11 Artificial intelligence (AI) and CC licenses

Many interrelationships exist between CC licenses and the training and use of AI (machine learning) technologies.[113] Many questions are still unanswered in this context, inter alia those bearing on legal aspects. However, the legal issues are much less complex when AI technologies access CC-licensed material than with content that is made available "all rights reserved".

Restrictions on the use of CC licensed works in AI development

CC licenses allow the reuse of works in any situation where copyright permission is required, making them compatible with use in the context of AI (machine learning) technologies. As long as license conditions are respected, no additional permissions are needed from the copyright owner for AI training, for example.

The question is whether the license obligations (such as the attribution obligation) must be complied with at all when using CC content in the context of AI training. If uses are covered by copyright exceptions such as fair use, they do not require any permission, regardless of the license. Under European[114] and US Copyright law, text and data mining (TDM), as in cases of training AI with copyright protected, publicly available material, may be[115] permitted by law per fair-use or TDM exceptions.[116] This may also apply to commercial uses. If and to the extent that copyright exceptions apply, the license is not required, and the license restrictions and obligations do not apply.[117] However, if uses in the course of TDM are not covered by statutory exceptions, the CC license applies, and its provisions must be complied with.

TDM (text and data mining): The process of automatically analyzing large datasets to extract new information, often covered by copyright exceptions.

Attribution requirements

Whether the attribution requirements of CC licenses apply in the context of AI training depends on the context and applicable law. CC licenses do not restrict uses not controlled by copyright (see above). For example, if AI training (text and data mining) is considered fair use or is covered by the EU TDM exceptions, and those rules do not require attribution, then these statutory copyright exceptions apply regardless of the license requirements. Use of copyrighted material within the scope of these laws would therefore not trigger the license obligations and the attribution requirements would not apply.

For-profit use of CC licensed content for AI training

May materials licensed under CC NC be copied by for-profit entities for AI training? Again, it depends on whether legal copyright exceptions allow such uses for commercial purposes. If this is the case, the license is not required and the NC restriction does not apply. If, however, copyright-relevant AI measures go beyond the legal permissions, CC NC content may not be used if they serve commercial purposes.

ND content use for AI training

Do ND licenses protect works from being used for AI training? In any case, depending on the technology, it is conceivable that the training material may be modified (translated, abridged, etc.) during AI training. Here too, the answer initially depends on whether legal provisions permit the use of the material in a modified form. If and to the extent that this is the case, the ND restriction does not apply (as with NC, see above). However, even if statutory copyright exceptions would not allow this, ND will usually not be affected in this context. The ND rule only applies if the modified material is republished or shared.[118] However, AI training data is not usually reproduced and made available as such. It is only used to train the AI system, which generates new content based on the learning materials (rather than reproducing the learning materials).

Legal considerations beyond copyright

CC licenses address copyright issues but do not cover other legal considerations such as privacy, ethical norms, horizontal regulation[119] and data protection laws. Users must ensure their own compliance with these regulations.

Data protection: The legal and technical measures designed to safeguard personal information from unauthorized access, use, disclosure or loss, thereby ensuring privacy and compliance with regulations.

Licensing AI output under CC

Whether it makes sense and/or is possible to license the output of AI under CC depends on whether it is protected by copyright. Many legal issues are still unresolved in this context and are the subjects of ongoing litigation.

Generally speaking, only human-made creations are protected by copyright. Output generated purely by AI is therefore not copyrightable under current copyright law.[120] However, if the output is revised, supplemented or otherwise modified by human creators, the result of this human-machine interaction may be protected. The scope of protection depends on in what way and to what extent the human editor has influenced the output and how individual or creative their contributions are. These questions, which include the threshold of originality that must be reached for copyright protection, depend crucially on the applicable law and on an assessment of the individual case.

Hence, pure AI output is, when in doubt, not protected, because it was not created by a human. If there are no copyrights, the output is per se in the public domain and can be used by anyone without restriction. Licensing public-domain content under a CC license is neither possible in legal terms nor sensible (see chapter above). Instead of using a license, the CC Public Domain Mark (PDM, see chapter above) should be used to indicate that the material is in the public domain.

If, on the other hand, creating the content involved human-machine interaction, the result can be protected by copyright and should be licensed. As is always the case with CC licenses, the license only applies to the copyright-protected components. The public-domain elements remain in the public domain and are not subject to the license obligations and license restrictions. The differentiation may be easy, for example, in the case of a comic whose graphics were created by an AI (not protected, license does not apply) and the corresponding text written by an author (protected, license applies).[121] Separating AI and human elements can also be difficult, for example, when an AI-written text is revised and partly reworded by a human editor.

3.5 The CC License Elements

The CC license suite is based on four elements: BY (Attribution), NC (NonCommercial), ND (NoDerivatives) and SA (ShareAlike). The BY element is included in every license as a basic building block.[122] The other modules are additional license elements. Overall, the combination of the basic element BY and the additional license elements results in the six standard licenses described above in chapter 3.1.

Legally speaking, the license elements have different functions. BY and SA are license obligations. They contain requirements that must be met when the material is used (such as the obligation to attribute the author and the source). NC and ND, on the other hand, are license restrictions or reservations of rights. Acts of use within their scope of application are not covered by the public license. Anyone wishing to use the material in this way will need an additional individual license from the rights holder.

3.5.1 BY – Attribution

Section 3.a of the CCPL4 license contains several information obligations.[123] Its attribution requirement includes the following obligations:[124]

1. The author and other parties designated to receive attribution must be named in the manner requested by the licensor as long as the requested form of attribution is reasonable (section 3.a.1.A.i of CCPL4).[125]
2. If supplied by the licensor, copyright notices, a reference to the CC license (preferably as a link to the CC website), a notice that refers to the disclaimer of warranty and liability and references to the original source must be retained (section 3.a.1.A.ii-v of CCPL4).
3. If the work is shared in an adapted version, it must be indicated that it is a modified version. Indications to previous modifications must be retained (section 3.a.1.B of CCPL4).
4. If the licensor requests to remove any of the information referred to in paragraph 2 above, the user must do so as long as it is reasonable (section 3.a.3 of CCPL4).

In general, the attribution obligation can be satisfied by simply adopting and passing on the information as provided by the rights holder. Attribution should always be done as the licensor intended. Thus the license says, "When you distribute the licensed material (including in modified form), you must (...) *retain* the following (...)". If the attributions are missing, incomplete or cannot be found, they are not required in the downstream use. The licensee does not have to do any research to find the information.

Where should crediting notices be applied?

The CC licenses are quite flexible regarding attribution requirements. The user is merely required to provide attribution in a "reasonable manner."[126] What is reasonable depends on the use case. Even if the licensor suggests or prescribes a certain method of attribution, this only binds the licensee if they can reasonably comply with it.[127] The flexible regime of the attribution requirement creates the necessary leeway for a range of possible solutions. Obviously, practices for use on websites will differ considerably from those that are reasonable in the context of radio broadcasts. There are several very informative guidelines that outline common, best, good or at least acceptable practices.[128]

Finding a reasonable solution is fairly straightforward once you understand the purpose of the attribution rules. As mentioned above, they are designed to ensure that

the author gets the credit he or she deserves, and they are necessary to make the licensing scheme work.[129] To achieve these goals, it is essential that the user can associate the attribution with a particular author and work. For example, if a website provider decided to centralize all credit information for all implemented images on a central page, they would need to ensure that each credit could be associated with the correct image (for example, by hyperlinking the information to the specific image file). The closer the credit is attached to the work, the more likely the credit will do what it is supposed to do. Therefore, it is generally recommended that the notices be placed as close to the work in space and time as reasonably possible.[130] However, it is neither necessary nor legally required that the notices always be placed directly on the copy of the reused work. It may even be sufficient to provide a link to a place (especially a website) where the attribution information can be found (see section 3.a.2 of CCPL4).[131]

What information must be provided?
From a purely legal point of view, the information to be provided depends on the applicable license. The requirements have changed slightly between different license versions.[132] If you don't want to familiarize yourself with the differences in detail, you should stick to the best-practices guidelines that have emerged in the communities over the years.

Here, the TASL principle has established itself as the best practice standard for attribution. Among others, Creative Commons[133] and Wikimedia[134] advocate for it.[135] They recommend that any attribution include the title, author, source, and license.

Title: Name of the work
The obligation to name the title of the work with every reuse was abandoned in CC version 4. All previous versions contained such an obligation. Thus, depending on the license version, it may be obligatory or optional. Usually it is advisable to simply pass on the title if the licensor provided one. Note that the title is the work's name, not a filename.[136]

Author: The creators and "any others designated to receive attribution" (section 3.a.1.A.i of CCPL4)
In the CC context, the attribution obligation is in most cases referred to the author. This is because authors are in many cases the licensors, though this is not always the case. In fact, "attribution" refers to the obligation to name the licensor in the way they have identified themselves. The reference can relate to the author but also to a third party, a company or a public authority. The information given may contain real names (of the author, other persons or companies). It may also be a pseudonym. Sometimes the licensor asks to credit another entity, such as a publisher or institution. Perhaps the licensor does not want to be named at all. For downstream users, only one thing is relevant: Any information chosen by the licensor must be retained.[137]

Sometimes the work contains a copyright notice. The copyright notice names the owner of the copyright. This can be the author themselves or a third party, such as a publisher. The notice consists of the copyright symbol "©", the year of publication and the name of the owner. If such information is provided, it must be retained (section 3.a.1.A.ii of CCPL4).

Source: The obligation to name the original publication (section 3.a.1.A.v of CCPL4)
The user shall indicate the location where the material was initially published. This can be done by providing a URL (an online resource) or by naming any other type of URI.[138] This obligation is usually easy to meet: Simply cite the source where you found

the material. If the original source is not obvious because there is no attribution on your copy of the material (perhaps for example you received it via email or social media), no further research is required. The attribution requirement applies only to the extent that it is reasonably practicable for the licensee to do so.[139] However, remember that linking to a webpage ("resource") that contains all the necessary attribution notices can suffice to fulfill your own attribution obligation (sec. 3.a.2 of CCPL4).

License: The obligation to refer to the license and to the warranty disclaimer (section 3.a.1.A.iii, iv of CCPL4)

The applicable license must be specified, including the license elements and version number. If the work is licensed under a national version, this must also be stated. In addition, the text of the license must be linked or a copy of the text of the license must be provided (section 3.a.C of CCPL4). The deed (i.e., the human-readable version of the license) is usually linked. This is not the actual text of the license, but only a legally non-binding summary. However, since the deed, at least on CC websites, contains direct links to the legal code, it is legally sufficient to link to it. This is also more useful for most users, as the human-readable version is the easiest to understand and therefore most useful for the vast majority.

The obligation to name the precise license version, and to provide a copy of the license or a link to it, is necessary to ensure that all users can benefit from the license at all. A user cannot comply with a license they do not know about. Thus, if the license information is not attached to the particular copy the user has accessed, the license cannot enter effectively into force. The requirement to link to the warranty disclaimer is based on the same idea. A contractual limitation of liability can only be valid if it is brought to the attention of the licensee. Since the disclaimer of warranty and liability is part of the license (section 5 of CCPL4), this obligation can simply be fulfilled by providing a URL or the full license text.

Modification notices: The obligation to reveal changes (section 3.a.1.B of CCPL4)

If the licensee shares a modified version of the licensed material they are obliged to reveal that fact. Section 3.a.1.B of CCPL4 only requires users to indicate that a change has been made, not what was changed in detail. It would not be legally required, but best practices suggest providing further information about the nature and scope of the changes in addition to the license's basic requirements. Moreover, change notices already added by other adapters must be preserved and may not be changed. This creates a traceable and transparent history for works that have been modified multiple times.

There are several reasons for the obligation to indicate modifications. First and foremost, it is aimed at protecting the reputation of the original author. If anyone were allowed to modify a work in any way without attribution, the result could be modified versions that the original author might not wish to be associated with, for example, because they dislike the style or quality. The documentation requirement ensures that modifications by third parties are clearly attributed to them and not to the original author. It also ensures that the history of the work can be traced at any time. This is particularly important for massive multi-author collaboration projects such as Wikipedia, which rely heavily on version histories to make the process of creating articles transparent.

What does a complete attribution look like?
Here is an example cited from the CC Wiki "Recommended practices for attribution." It shows a proper attribution for sharing an image unmodified:[140]

CC's recommendation for a best practice attribution is as follows:



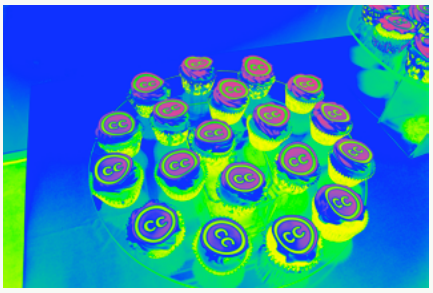
"Creative Commons 10th Birthday Celebration San Francisco" (http://www.flickr.com/photos/sixteenmilesofstring/8256206923/in/set-72157632200936657) by Timothy Vollmer (https://www.flickr.com/photos/sixteenmilesofstring/) is licensed under CC BY 4.0 (http://creativecommons.org/licenses/by/4.0/).

It contains all TASL elements as contributed by the licensor.[175]

The name of the title and the link to the author's profile page are not mandatory. They are not required by the CCPL4. The following would also be compliant with the license:

Photo (http://www.flickr.com/photos/sixteenmilesofstring/8256206923/in/set-72157632200936657) by Timothy Vollmer/ CC BY (http://creativecommons.org/licenses/by/4.0/).

If an adaptation of the image were shared, the attribution notice would look like this:



This work, "90fied", is adapted from "Creative Commons 10th Birthday Celebration San Francisco" (Link) by Timothy Vollmer (Link to the author's profile page), used under CC BY 4.0 (Link to the deed). "90fied" is licensed under CC BY 4.0 BY [your name here].

If the original is licensed under CC BY, as it is here, the adapter could also choose a different license for their version (for example, CC BY-SA). The license notice might then read as follows:

This work, "90fied", is adapted from "Creative Commons 10th Birthday Celebration San Francisco" (link) by Timothy Vollmer (link to the author's profile page), used under CC BY 4.0 (link to the deed). "90fied" is licensed under CC BY 4.0 BY-SA (link to the BY-SA deed) [your name here].

Tools for attribution
Some platforms and search tools, like Wikimedia Commons[141] and the Openverse search engine[142], feature attribution notice generators. There are also useful online tools to generate proper attribution, for example:

- Attribution Generator, which generates license information for images from Wikipedia and Wikimedia Commons: https://lizenzhinweisgenerator.de/?lang=en
- The Creative Commons Attribution Builder by Deakin University: https://www.deakin.edu.au/library/help/attribution-builder

3.5.2 NC – NonCommercial

Three of the six CC licenses include the NC element. NC means that the licensor reserves the right to use the material for commercial purposes. Any user who wants to use the work for commercial purposes needs additional permission (i.e., an additional license) from the copyright holder.

The definition of noncommercial has remained virtually the same in all versions of the CC licenses. Although several times during the versioning process[143] it was discussed that the definition should be made more precise, it has never been done.

The definition can be found in section 1.i of the NC licenses' legal code.[144] It reads:

"NonCommercial means not primarily intended for or directed towards commercial advantage or monetary compensation..."[145]

Obviously, this definition leaves a lot of room for interpretation. According to Creative Commons' guidelines, this openness and therefore flexibility is intentional. Moreover, a clear-cut definition for all possible factual situations and business models would be impossible. Hence the definition only serves to give some general guidance. The specific interpretation must be assessed on a case-by-case basis. On the one hand, the law applicable to the particular case is decisive. But as the license is a contract, the objective view of the contracting parties (licensor and licensee) must also be taken into account.[146]

Hereinafter an attempt will be made to give some concrete answers for certain typical use cases, although these must be understood as the author's personal opinion only.

The distinction given here between commercial and noncommercial is based on two general factors: user-related aspects and use-related aspects.[147] Each category comprises a number of more detailed factors which indicate commercial or noncommercial uses, respectively. In addition, the two general factors, combined with further indicators, should give a good overview of several typical use cases.

The chart below shows the key indicators for distinguishing between commercial and noncommercial use cases. It is based on the following assumptions:[148]

- A user's general attitude toward for-profit or nonprofit activities is not determinative. No category or class of users is generally included or excluded by the noncommercial rule. However, the general orientation of a user is a powerful, if indirect, indicator of the crucial question: What is the primary purpose for which the work is used?[149]
- The term "commercial" has to be understood in a broad sense. If the use even remotely serves a financial interest of the user, it is most likely to be deemed commercial. It may be assumed that activities of profit-oriented users (especially companies) generally serve a business interest to some degree. On the other hand, not-for-profit organizations will normally use material without commercial interest. Counterexamples are of course possible.[150]
- Uses that generate direct profits are considered commercial.
- The question of whether a particular use may also serve the public interest or only the self-interest of the user has some relevance for its classification as commercial or noncommercial.

- Among the uses of individuals, there is a difference between job-related and private uses. If the use is job-related, the classification depends on whether the intention of the employer and/or client is "primarily directed towards commercial advantage."[151] In other words, a use could be commercial even if the user did not follow their own commercial interests but supported those of a third party (the employer). If the use only serves a private purpose and only takes place in the private sphere, it is always noncommercial.
- Apart from these differences, it is irrelevant who the user is. Individuals can follow commercial interests much the same as legal entities or institutions.
- Whether commercial tools (such as platforms or social networks) are used for copying or sharing is irrelevant. What matters is the intention of the user. For example, if a private user shares a video on YouTube for entertainment purposes only, this is not considered a commercial use, even though YouTube is a commercial platform.
- Uses that are covered by copyright limitations and exceptions do not fall into the scope of the license. If such regulations permitted certain commercial uses, the NC restriction would not be effective.[152]
- Unlike the license obligations,[153] the NC restriction is also relevant for in-house uses. Copying for purely internal purposes, i.e., even if the copies are not to be shared with third parties, is therefore only permitted for noncommercial purposes.[154]

Further explanations regarding the following chart:

- A freelancer is an individual who runs a business and uses the material for his or her business interests. The term "freelancer" should be understood in a broad sense. It includes, but is not limited to, artists who make a living from their creative work.
- A private person is an individual who uses the material in the given case for private purposes only. Use by individuals in the course of their employment is considered use by their employer. If an individual acts commercially on their own account, for example, by selling hard copies of CC-licensed material, they are considered a freelancer.
- The following assessment must be understood as a reflection of the author's personal opinion alone.[155] They are an attempt to give some guidance beyond the lawyer-typical statement, "it depends." Nonetheless, it should be clear that each precise assessment at last depends on the peculiarities of the actual case.

Chart 1: Who can use NC content in what use case?

Use case	User type: Company	Public institution	Nonprofit NGO	Freelancer	Private person
Sell hardcopies	No	No	No	No	No
License content against payment	No	No	No	No	No
Use for advertising	No	No	No	No	No
Use to make a profit	No	No	No	No	No
Use for a job	n.a.	n.a.	n.a.	No	n.a.
Use on a website that displays ads to recover hosting costs	No	Yes	Yes	No	Yes
Use on a platform where the platform provider (not the content provider) displays ads	No	Yes	Yes	No	Yes
Use for in-house education and information	No	Yes	Yes	No	n.a.
Use for private entertainment and to entertain user's friends and family	n.a.	n.a.	n.a.	n.a.	Yes
Use to inform or entertain customers, clients, an audience, etc.	No	Yes	Yes	No	Yes
Use in tuition-free courses for educational purposes	No	Yes	Yes	No	Yes
Use in tuition-based courses for educational purposes	No	No	No	No	No
Use for corporate-funded research	No	No	No	No	n.a.
Use for tax-funded research	No	Yes	Yes	No	n.a.
Use for in-house corporate research	No	n.a.	n.a.	No	n.a.

3.5.3 ND – NoDerivatives

Two CC licenses contain the license element NoDerivatives: CC BY-ND and CC BY-NC-ND. As any license restriction, ND does not mean that the material cannot be adapted or modified at all. Rather, it means that the right to share modified versions of the work is reserved, i.e., anyone who would like to share or publish an adapted version of the material must obtain an additional license. The intent and purpose of the restriction is to protect the integrity of the work.

Section 2.a.1.B of the CCPL4 ND licenses points out that adapted material can be produced but not shared. Hence, creating modified versions or derivative works is permitted, but sharing them is not.[156] Remember that the CC license restrictions, such as ND, do not prohibit what is lawful under applicable law.[157] Therefore the ND restriction does not apply where distribution or publication of modified or derivative works is permitted under copyright law.[158]

The term "adaptation"
The ND licenses state that adaptations, i.e., modifications and derivative works, may not be shared or published. But what does that mean, and what are adaptations?[159] The CC licenses refer to them as "Adapted Material" and define them in Section 1a as follows:

"Adapted Material means material subject to Copyright and Similar Rights that is derived from or based upon the licensed Material and in which the licensed Material is translated, altered, arranged, transformed, or otherwise modified in a manner requiring permission under the Copyright and Similar Rights held by the Licensor. For purposes of this Public license, where the licensed Material is a musical work, performance, or sound recording, Adapted Material is always produced where the licensed Material is synched in timed relation with a moving image."[160]

What exactly is an adaptation?
There are some examples in the legal code of uses that are considered to be adaptations and uses that are explicitly excluded from this definition. According to section 1.a of CCPL4, an adaptation takes place when the material is "translated, altered, arranged, transformed, or otherwise modified in a manner requiring permission under the Copyright and Similar Rights."

On the one hand this means that "translating a work from one language to another or creating a film version of a novel are generally considered adaptations."[161]

On the other hand, according to section 2.a.4, mere technical modifications are not deemed adaptations. The latter means that format-shifting is not considered an adaptation, nor is the digitization of a non-digital work. In these cases, the work itself remains unchanged. The digitization of a printed novel, for instance, does not change the novel (the work itself), but only the medium in which it is embodied. Therefore, it is not considered an adaptation or modification under copyright law but simply a reproduction of the work in a technically different format.

Apart from the cases explicitly mentioned, any further interpretation of the term depends on applicable copyright law.[162] This makes it impossible to give blanket answers about the interpretation of "No Derivatives" under CC ND. Ultimately, the following question must be answered on a case-by-case basis: Does the applicable law consider the particular use to be a use of an adapted and/or modified version of the work? As there is no one-size-fits-all answer to this question, and it is not possible to cover every legal system, only a few general points can be made.

Adaptations of the work itself
If the work itself is altered, for example, in abridgements, extensions or re-arrangements of the content, it is generally considered adaptation under copyright law. This applies irrespective of whether the adapter owns a copyright in the modified version (which would require the modification being copyright-protected itself).

Adaptation by changing the context and combining the work with other content – remixes, mash-ups, collections and work combinations
More complex issues arise when verbatim copies of the work are used in a new context. The term "derivative works" (a kind of adaptation) may apply even if the individual works are not modified at all but are combined with other works or parts of works to form a new whole. This raises complex questions. For example: can an ND photograph be used in a book where it is framed by an article? Can someone publish a collection of 100 photos from various origins, including ND images, on a website? Can someone

include an ND text in an anthology of articles by several authors? Can someone include an ND video in an artistic video collection? Can someone combine several media, including ND sound recordings, in a multimedia installation and sell it?

All these questions can only be answered on a case-by-case basis under consideration of the applicable law. The legal situation for Italian users can thus be different from the legal situation for German users. As the legal terms "adaptation" or "modification" must be interpreted, it is very important to know the applicable national case law to assess the issue in question.[163]

The distinction between collections and combinations of works will most likely be an important factor under every jurisdiction. In a collection such as an anthology or a catalog, several works are simply put together for publishing. The different contents stand alone as separate and distinguishable works, so the identification of each work and author are unproblematic. Hence, including a work in a collection will usually not be considered an adaptation.

On the other hand, the combination of works often has the effect of intertwining the individual works, causing them to lose their independence and individual expression. Depending on the technique, combinations of works tend to have their own aesthetic expression that is different from the individual works used. When this is the case, the result is usually considered "adapted material", and the ND license does not permit its publication.

A key distinction between collections and combinations is whether the individual works remain separate and distinct in the new context. If the work itself is modified, for example, a text is cut or a song is remixed, the ND limitation would apply in any case. Mash-ups and remixes usually involve such modifications. However, if a verbatim copy of the work were simply grouped with others, the result would often be a collection rather than a combination, i.e., there would be no adaptation.

If verbatim copies of works were combined to create a new comprehensive work with its own aesthetic expression, the new work would also have to be considered "adapted material". Here, the combined material would not be "grouped" but rather "merged," resulting in a new and larger work containing both original and adapted material. Examples of this would be the use of a copyrighted image in a movie, the use of a copyrighted cartoon character in a video, or the aforementioned use of music tracks in moving images.

In light of the above, it would seem appropriate to adopt the following principle as a general rule of thumb: Whenever existing material is merged into a larger work which has a character of its own, the works are adapted under the terms of copyright and the CC ND restriction. The more the individual works are used "as is" and "standalone," i.e., they are only grouped, the less likely their combination or collection will be considered as adapted material.

Obviously, this abstract rule still leaves plenty of room for interpretation. However, following this distinction, it is possible to make a relatively clear-cut between adaptations which are not permitted under ND, and mere reproductions, which are permitted. Some typical cases are explained in the chart below.

Chart 2:
What uses are allowed under ND licenses?

Use Case	Permitted under ND?
Mash-up video	No
Image or text in newspaper or journal	Yes
Music remix	No
Sampling	No
Image or text on website, blog or social media posting	Yes
Translation	No
Music syncing, for example, in a social media reel	No
Screen adaptation (from a novel, piece of music, etc.)	No
Images in catalog	Yes
Article in text collection	Yes
Image collage	Depends (generally No)
Parody	No
Cooking show video with background music	No
Documentary film integrating found footage	No

Explanations:

- The key to the answer is whether the reused work(s) remain separate and distinguishable in the given context, and whether they themselves have been modified to fit the new context.
- If the reused work itself was modified, for example, a text was shortened or a song remixed, the ND restriction would apply in any case. Therefore, the answer is "No", the work cannot be used under ND. By contrast, in all cases marked "Yes", it is presumed that the reused material itself is used "as is". If the reused work was merged with other material into a new and larger work, the answer would be "No". This is the case when all the material is remixed or mashed up to create a new and larger work with an aesthetic expression of its own which replaces the independent expression of the reused work(s).
- If identical copies of ND material are simply grouped with other material (i.e., a photo is framed by a text on a website) without being merged into a new work, the answer will generally be "Yes".
- The creation of adaptations as such is not restricted by the ND clause if the material is not published.
- If the reuse is permitted by statutory copyright (exceptions, fair use, etc.), ND does not restrict it.
- The chart only expresses this author's personal opinion. It is an attempt to give some guidance beyond the lawyer-typical "it depends". Nonetheless, it should be clear that each precise assessment eventually depends on the peculiarities of the actual case.

3.5.4 SA – ShareAlike

Two CC licenses contain the ShareAlike (SA) element. SA means that adapted material can only be shared and published under the original or a compatible license. According to the SA clause in CCPL4 (section 3.b), the following obligations must be complied with, in addition to the general attribution conditions (section 3.a of CCPL4):

1. The adapter's license must be either the original license or any later version of that license. Earlier versions cannot be used. It may also be another CC license that contains the same license elements, for example, a ported version of the CC BY-SA license (section 3.b.1 of CCPL4).
2. A hyperlink or other reasonable reference to the adapter's license must be included (section 3.b.2 of CCPL4).
3. The use of the modified version must not be restricted by additional terms and conditions or TPM (section 3.b.3 of CCPL4).

In short, this means that the adapter (one who shares or publishes a modified version of the material) is bound to use the license conditions chosen by the original licensor. The adapter is not allowed to further restrict users' freedoms, regardless of whether that may result from more restrictive license conditions, from technical restrictions or anything else. The sense of this "contagious freedom" is easily explained: All manifestations and shapes of a work should share the same freedoms. SA material should always remain open, even if it is changed, remixed or otherwise transformed.

Within this reasoning, the following concept plays an important role: Licenses without SA enable third parties to exploit modified Open Content in an "unfree" manner. A record company could, for example, take a song which was published under CC BY, remix it, market the result under an "all rights reserved" regime and license it, for example, to Spotify against royalties. SA clauses prevent such appropriations through their "vaccination effect" on modifications.

When does the SA condition apply?
SA applies only when a) the material is adapted[164] and b) it is shared. SA is not an obligation to publish. The element states that should modified versions be shared, they must be shared under the original license or a compatible license.

It does not state that such modifications must be shared. Adapting the work and keeping it to oneself is perfectly legitimate.[165]

What does SA mean? Which license must I use for the publication of adapted material?
There are three options to license adapted SA material, i.e., three options for the adapter's license:[166]

1. The adapted material is shared under the same CC SA license as the original (for example, CC BY-SA 4.0 International) or any later version of this license (for example, content that is licensed under CC BY-SA 3.0 Unported may be modified and published under CC BY-SA 4.0 International).
2. The adapted material is licensed under a CC license with the same elements as the original license. This applies especially to ported versions. A modified image which was initially licensed under CC BY-SA 3.0 Unported could thus be shared under CC BY-SA 3.0 Germany. Again, later versions of such ported versions could

be used as well. Under CCPL4, however, this second option might become obsolete, as no ported versions of the licenses are planned as of today.[167]

3. The adapted material is licensed under a CC BY-SA "compatible license." According to sec. 1c of the legal code these are licenses listed under https://creativecommons.org/share-your-work/licensing-considerations/compatible-licenses/.

According to section 3.b.3 in the CCPL4 SA license's legal code[168], the adapter may not impose additional rules or further restrictions on downstream users. In other words, if an adapter used the initial license (for example, CC BY-SA 4.0) for their version, but restricted the rights in their general terms and conditions or addenda to the CC license, they would violate the SA clause.[169]

Mixing SA material with Open Content under different licenses – the license incompatibility problem

As explained above, SA requires adapters to re-license their modified material under the same or a compatible license. Let us imagine that an adapter mixes BY-SA, BY-NC and BY-NC-SA video snippets to create a mash-up: As the components of the mash-up are merged rather than combined,[170] the new work has to be licensed under a single license (for example, BY-SA). Put simply, both the BY-SA license and the BY-NC-SA license here stipulate: "You can share the mash-up (the adaptation) as a whole only under my license terms." Obviously, this is impossible. The adapter can only license the mash-up under either BY-SA or BY-NC-SA. The two licenses contain different and in the end contradicting conditions. The BY-NC-SA license prohibits commercial uses, whereas the BY-SA license permits them. Hence, the licenses are incompatible with each other.

This complication is referred to as the "license incompatibility problem." A license incompatibility is a situation where the user can comply with only one of two or more conflicting license obligations. In other words, the adapter either violates one license or the other.

License incompatibility is a significant problem for free culture. Its central idea is to create a pool of freely reusable content that can be easily mixed, mashed up and otherwise combined. License incompatibilities, on the other hand, not only increase the legal uncertainty of remixing, they also prohibit many potential uses. The scale of the license incompatibility problem is illustrated by the fact that most CC licenses are incompatible with each other, with the undesirable effect that content under different licenses cannot be combined.

The following chart shows that 32 out of 64 possible ways to combine differently licensed CC works in a remix, mash-up or other larger work are not permitted.[171]

The chart illustrates that the more restrictive the license is, the less likely the content can be mixed with others in a larger work.[172] The explanation is quite simple: NC material may not, for instance, be mixed in a remix to be published under a license that allows for commercial use. Doing so would make the NC work commercially usable since it will form part of the remix. SA material, on the other hand, can only be relicensed under the same license.[173] SA works can therefore only be combined with other content that is published under a license which allows for the re-licensing under any other license. The combination of CC BY-SA and CC BY content could, for instance, be licensed under CC BY-SA because the BY license allows that.

Chart 3:
Compatibility of CC licenses[176]

	PUBLIC DOMAIN	PUBLIC DOMAIN	BY	BY SA	BY NC	BY ND	BY NC SA	BY NC ND
PUBLIC DOMAIN	✓	✓	✓	✓	✓	✗	✓	✗
PUBLIC DOMAIN	✓	✓	✓	✓	✓	✗	✓	✗
BY	✓	✓	✓	✓	✓	✗	✓	✗
BY SA	✓	✓	✓	✓	✗	✗	✗	✗
BY NC	✓	✓	✓	✗	✓	✗	✓	✗
BY ND	✗	✗	✗	✗	✗	✗	✗	✗
BY NC SA	✓	✓	✓	✗	✓	✗	✓	✗
BY NC ND	✗	✗	✗	✗	✗	✗	✗	✗

28 In the "Quantifying the Commons" project, over 2.5 billion CC-licensed open works were estimated to be available online in 2022. See the "State of the Commons Report 2022", https://creativecommons.org/state-of-the-commons-2022/#cc-licenses-and-legal-tools and, for more details, the project website https://opensource.creativecommons.org/blog/entries/2022-12-07-berkeley-quantifying/.

29 The CC licensing model is explained here: https://creativecommons.org/share-your-work/cclicenses/.

30 Note that older versions of the CC licenses (up to version 3.0) contained the additional obligation to cite the title, if any, of the work (for example, sec. 4.b.ii of the CC BY-3.0 legal code). Although it is no longer mandatory under CC 4.0, it is common and in general meaningful to cite the title of CC 4.0-licensed works as well. See the CC Wiki for "Recommended practices for attribution": https://wiki.creativecommons.org/wiki/Recommended_practices_for_attribution.

31 Unless otherwise stated, all references to CC licenses refer to the legal code of Version 4 (CCPL4).

32 For example: If the material becomes popular and is widely reused, the author may benefit from the popularity and publicity. However, this effect can only occur if the author is credited when their work is shared and reused.

33 In order for the license to come into effect, the downstream user must be able to take note of the license text. For more details see chapter 2.4.4 above.

34 This only applies if the adapter decides to share or publish her version. SA is not an obligation to publish. For more on this and other details of the SA clause, see chapter 3.5.4 below.

35 Creating and reproducing adaptations, however, is permitted as long as they are not shared (section 2.a.1.B of the CCPL4 ND licenses' legal code).

36 For details on the ND clause see chapter 3.5.3 below.

37 For details on the NC clause see chapter 3.5.2 below.

38 This license is rather rare, but it does see use: for example, by the Massachusetts Institute of Technology (MIT) Open Courseware Project (OCW). See https://ocw.mit.edu.

39 For the text, see: https://creativecommons.org/publicdomain/zero/1.0/legalcode.

40 For example, see Kreutzer. 2011. Validity of the Creative Commons Zero 1.0 Universal Public Domain Dedication and its usability for bibliographic metadata from the perspective of German Copyright Law; archived at https://web.archive.org/web/20240110115151/https://www.rd-alliance.org/sites/default/files/cc0-analysis-kreuzer.pdf.

41 See CC0 section 3, according to which the "affirmer" (the person who uses CC0 for her work) "grants to each affected person (the downstream users) a royalty-free, non-transferable, non-sublicensable, non-exclusive, irrevocable and unconditional license…" In short: The fallback license permits any use whatsoever without conditions.

42 It is certainly questionable as to whether such conduct would be considered acting in bad faith under the law and therefore unenforceable. However, such considerations are vague and vary from case to case and from jurisdiction to jurisdiction. CC0 aims to avoid such uncertainties and create a clear legal situation.

43 See chapter 4.1.6 below.

44 See: https://lawflow.org/public-domain-calculators/.

45 See the overview at: https://creativecommons.org/version4. A more detailed comparison, including references to the different drafts of CCPL4 and the drafting process, can be found here: https://wiki.creativecommons.org/wiki/Version_4. An even more in-depth examination that also includes older versions is the CC wiki license versions page: https://wiki.creativecommons.org/wiki/license_Versions.

46 The effect of such a clause is to allow the licensee to decide whether to use the material under the previous or the new license version after a new license version has been published. This allows new license versions to spread more quickly. Section 14 of the GNU General Public License version 3 is an example of such a clause.

47 For more information about the history of this process and the CC International approach, see: Maracke. 2010. Creative Commons International. The International License Project. JIPITEC, vol. 1 , issue 1, p. 4–18; https://www.jipitec.eu/jipitec/article/view/39.

48 Catharina Maracke, former project lead of the CC International Project, „Creative Commons International. The International License Project" (JIPITEC, vol. 1, issue 1, para 7): "The goal of this international porting project is to create a multilingual model of the licensing suite that is legally enforceable in jurisdictions around the world." (see https://www.jipitec.eu/jipitec/article/view/39/35).

49 The unported CC licenses are not focused on a particular jurisdiction, neither linguistically nor in terms of regulation. They should not be confused with the (national) US CC licenses. According to Section 8f of CCPL3, the terminology of the unported licenses is based on international copyright treaties, such as the Berne Convention for the Protection of Literary and Artistic Works and the Rome Convention or the WIPO Copyright Treaty. See: https://wiki.creativecommons.org/Version_3#Further_Internationalization.

50 Another problem with using US licenses in continental Europe and other authors' rights regimes can be caused by moral rights. In some jurisdictions, such as the US, moral rights are rather weak and can be waived by contractual agreement (for example, by a license). In other territories, including some continental European copyright jurisdictions like France or Germany, these rights cannot be waived nor assigned to a third party, and there are restrictions on licensing.

51 Even when ported license versions are used for transnational licensing, a number of problems may arise, especially in the field of private international law which designates the applicable law in such cases. These complex issues are outside the scope of this guide. For further information see: Maracke. 2010. Creative Commons International. The International License Project. JIPITEC, vol. 1, issue 1, paras 33-38; https://www.jipitec.eu/jipitec/article/view/39.

52 See: https://creativecommons.org/faq/#what-if-cc-licenses-have-not-been-ported-to-my-jurisdiction and https://creativecommons.org/faq/#should-i-choose-an-international-license-or-a-ported-license.

53 See https://wiki.creativecommons.org/wiki/Legal_Tools_Translation#Translation_status_of_the_4.0_licenses_and_of_CC0.

54 See the State of the Commons report 2022 for more about this and other CC related data: https://creativecommons.org/2023/04/11/state-of-the-commons-2022/.

55 See chapter 3.5.4 below for details.

56 For more details on this aspect, see chapter 2.4.8 above.

57 The clause is not easy to spot. It can be found in section 2.a.5.B of the CCPL4 BY-SA legal code, which reads, "Additional offer from the Licensor – Adapted Material. Every recipient of Adapted Material from You automatically receives an offer from the Licensor to exercise the licensed Rights in the Adapted Material under the conditions of the Adapter's license You apply." See: https://creativecommons.org/licenses/by-sa/4.0/legalcode.

58 This is true at least as long as the adapter complies with the ShareAlike rule and chooses a legitimate adapter's license. However, if that were not the case, because, for example, the adapter used a BY-SA-NC for a modification of a work that was initially licensed under BY-SA, they would violate the license obligations. The effect would be that the license for their version of the work was null and void because of the automatic termination clause until the infringement was cured. For more details, see chapter 3.4.10 below.

59 See below 3.4.2 The scope of prior versions of CC licenses was more limited. See the CC license versions page for details: https://wiki.creativecommons.org/wiki/license_Versions.
60 See below 3.4.3.
61 For more details see 3.5.2 below.
62 For more details see 3.5.3 below.
63 See section 2.a.1.
64 This is true for co-authors, too. The result is that, for example, elaborate Wikipedia articles have numerous licensors. Each of them grant their rights in their own contribution to the users who reuse the article. All these individual rights taken together result in the all-encompassing license to use the entire article.
65 Regarding this aspect, see also chapter 2.4.5 and note 17 above.
66 This aspect varies across license versions. Different from the CCPL4, older versions of the generic (international) license did not mention the database right (which does not mean that such rights were not licensed). For a comparison, see https://wiki.creativecommons.org/wiki/license_Versions#license_scope_.28beyond_copyright.29.
67 See the CC FAQ for more information: https://creativecommons.org/faq/#what-are-neighboring-rights.
68 https://creativecommons.org/faq/#can-databases-be-released-under-cc-licenses.
69 This IPR is a European peculiarity that does not exist in many other parts of the world (for example, the USA). It was introduced in the European Union in 1996 by the Database Directive. Database rights apply throughout the EU but not necessarily outside Europe.
70 See the CC wiki on "Data": https://wiki.creativecommons.org/wiki/data.
71 According to the German CCPL3 licenses, the licensor waives all database rights (see section 3, last sentence). The effect of such a waiver is that the licensor gives up the ownership in the database. Thus, all involved database rights cease to exist, and licenses may not be granted any longer (no rights, no licensing, no license obligations). See more details about the differences: https://wiki.creativecommons.org/wiki/license_Versions#license_scope_.28beyond_copyright.29.
72 Whether it makes sense to license datasets depends crucially on what they are. If the datasets consist of pure information (for example, geodata, mathematical values or similar), they are already in the public domain and therefore cannot be "licensed". In such a situation (protected database, unprotected datasets), it is advisable to place the database under a CC license and to mark the datasets as public domain with the Public Domain Mark. For more details see chapter 4.1.6 below. Also, for the different components of databases see: https://wiki.creativecommons.org/wiki/data#Which_components_of_databases_are_protected_by_copyright.3F.
73 See also https://creativecommons.org/faq/#how-do-i-apply-a-cc-legal-tool-to-a-database. For further information about marking material with CC licenses in different use cases (specifically: marking datasets), see: https://wiki.creativecommons.org/wiki/Marking_your_work_with_a_CC_license#Example:_Dataset.
74 This means, on the other hand, if somebody used a CC-licensed database in a jurisdiction where the applicable law did not provide for database rights, the user would not be bound by the license obligations. CC does not create rights that are not granted by the applicable law. If no IPRs apply to the material in question, the CC license would not be applicable either. See section 2.a.2. CCPL4 and https://creativecommons.org/faq/#how-do-cc-licenses-operate.
75 For more information, see the CC FAQ: https://creativecommons.org/faq/#how-do-the-different-cc-license-elements-operate-for-a-cc-licensed-database.
76 For more about licensing and re-using licensed databases, see: https://creativecommons.org/faq/#data.
77 See https://wiki.creativecommons.org/wiki/license_Versions#Trademark_and_patent_explicitly_not_licensed and https://creativecommons.org/faq/#can-i-offer-material-under-a-cc-license-that-has-my-trademark-on-it-without-also-licensing-or-affecting-rights-in-the-trademark.
78 The CC FAQ document seems to be in favor of such an assumption, even though it refers to the respective applicable law: https://creativecommons.org/faq/#can-i-offer-material-under-a-cc-license-that-has-my-trademark-on-it-without-also-licensing-or-affecting-rights-in-the-trademark.
79 In general, section 2.a.6 of the CCPL4 legal code explicitly prohibits the insinuation of an individual relationship to the licensor ("no endorsement"). The clause reads: "Nothing in this Public license constitutes or may be construed as permission to assert or imply that You are, or that Your use of the licensed Material is, connected with, or sponsored, endorsed, or granted official status by, the Licensor or others designated to receive attribution as provided in section 3(a)(1)(A)(i)."
80 See, for example, section 4d of CCPL3 Germany: https://creativecommons.org/licenses/by/3.0/de/legalcode and section 4C in the Australian CCPL3: https://creativecommons.org/licenses/by/3.0/au/legalcode.en.
81 For regimes that do not allow waivers of moral rights, the clause provides a fallback option in the form of a non-assertion pledge, i.e., the licensor does not waive the rights but agrees not to assert them.
82 See https://creativecommons.org/faq/#how-do-creative-commons-licenses-affect-my-moral-rights-if-at-all.
83 Such questions are especially relevant for content published under licenses that allow modifications. However, they can also be fundamental for uses of verbatim copies (see also note 84).
84 The right of integrity may not only protect against modifications that distort the work, but may also (depending on the applicable law) prohibit use of the unmodified work in contexts that could harm the author's reputation, including political campaigns.
85 See https://creativecommons.org/faq/#how-are-publicity-privacy-and-personality-rights-affected-when-i-apply-a-cc-license.
86 To what extent the user is liable and what claims they might face depends on the applicable law.
87 See the "Notices" section for example in: https://creativecommons.org/licenses/by-sa/4.0/deed.en.
88 See the CC FAQ: https://creativecommons.org/faq/#how-do-cc-licenses-operate.
89 See § 51a of the German Copyright Act (UrhG), according to which a "pastiche" can be made and shared without further obligations. The exception applies to mash-ups, memes and other common transformative cultural practices on the internet. See Kreutzer/Reda 2023, "The Pastiche in Copyright Law – Towards a European Right to Remix.", https://copyrightblog.kluweriplaw.com/2023/03/13/the-pastiche-in-copyright-law-towards-a-european-right-to-remix/.
90 See also chapter 2.4.4 above.
91 See above. No license is granted if the use is covered by a copyright exception or if public domain material is used. This also means that license obligations and restrictions do not apply.
92 See chapter 2.4.5 above.
93 This applies to all the major license obligations located in section 2.a (attribution) and 2.b (SA) of CCPL4. "Sharing" is defined in section 1.i of CCPL4 as: "to provide material to the public by any means or process that requires permission under the licensed Rights, such as reproduction, public display, public performance, distribution, dissemination, communication, or importation, and to make material available to the public including in ways that members of the public may access the material from a place and at a time individually chosen by them." In conjunction, the two clauses

mean that if the material is not shared with members of the public, the user is not asked to comply with the obligations.

94 The only CC license clause relevant to such personal or internal use is the NC restriction. It reserves the right to commercial use for the licensor, regardless of whether the use involves public sharing or simply copying for internal purposes.

95 The ShareAlike (SA) clause in Creative Commons licenses means that if you modify a work and you share your modified version with the public, you must license it under the same or a compatible license. However, this doesn't mean you are required to publish your version. You can keep it private or share it with a limited group without needing to comply with the SA clause. See in detail below, chapter 3.5.4.

96 See in detail below, chapter 3.5.3.

97 See: ECJ Case C-135/10 - Società Consortile Fonografici (SCF) vs. Marco Del Corso, paragraph 85; (https://curia.europa.eu/juris/document/document.jsf?text=&docid=120443&pageIndex=0&doclang=EN&mode=lst&dir=&occ=first&part=1&cid=298306). Here, the ECJ maintained inter alia that the patients of a dentist practice were not "persons in general" but rather formed a private, non-open group. Hence, "private groups" are not only friends and family but can also consist of persons without a personal relationship.

98 According to the judgment of the ECJ, a dentist's patients are not a large group that qualifies for that criterion. Also, it held that the succession of patients did not ultimately form a public group either. See: ECJ Case C-135/10 - Società Consortile Fonografici (SCF) vs. Marco Del Corso, paragraph 84.

99 It held that a dentist's practice would not increase its income by playing radio programs. See: ECJ Case C-135/10 - Società Consortile Fonografici (SCF) vs. Marco Del Corso, paragraph 88. However, in another case it maintained that, for a hotel owner, the reception of TV programs by guests had an economical impact on the business. See: ECJ case C-306/05, Sociedad General de Autores y Editores de España (SGAE) vs. Rafael Hoteles SA, paragraph 44; https://curia.europa.eu/juris/showPdf.jsf?text=&docid=66355&pageIndex=0&doclang=EN&mode=lst&dir=&occ=first&part=1&cid=300896.

100 For example, if somebody sitting in a park listens to a radio, they do not intend to entertain the passersby; thus there is no public use.

101 See: ECJ, Case C-466/12, Nils Svensson et al vs. Retriever Sverige AB, paragraph 24; https://curia.europa.eu/juris/document/document.jsf?docid=147847&doclang=EN.

102 For that reason, many CCPL3 ports for EU member states contained adapted liability disclaimers to conform to the national regulation.

103 See: Directive 2001/29/EC, Art. 6, https://eur-lex.europa.eu/eli/dir/2001/29/oj.

104 Note that this clause is found in the CCPL4 SA legal text in section 2.a.5.C.

105 https://creativecommons.org/faq/#what-do-i-do-if-someone-tries-to-place-effective-technological-measures-such-as-drm-on-my-cc-licensed-material.

106 In the case of legal restrictions on the freedom of use, this is clear. According to section 2.a.5.B CCPL4, the licensee may not restrict the licensed rights in any way. Violations of this restriction will cause the license to terminate and are legally not enforceable (Section 6.a CCPL4).

107 See section 6.a CCPL4.

108 Section 2.a.1 CCPL4.

109 Section 6.a CCPL4.

110 The respective clause in CCPL3 that contained this provision was deleted in CCPL4. Section 7.a CCPL3 (https://creativecommons.org/licenses/by/3.0/legalcode) states: "Individuals or entities who have received Adaptations or Collections from You under this license, however, will not have their licenses terminated provided such individuals or entities remain in full compliance with those licenses." From a legal perspective this is self-evident, so the deletion of this clause should make no difference.

111 See the explanation in the FAQ: https://creativecommons.org/faq/#how-can-i-lose-my-rights-under-a-creative-commons-license-if-that-happens-how-do-i-get-them-back.

112 https://creativecommons.org/faq/#how-can-i-lose-my-rights-under-a-creative-commons-license-if-that-happens-how-do-i-get-them-back.

113 See the CC FAQ on this topic: https://creativecommons.org/faq/#artificial-intelligence-and-cc-licenses.

114 See Art. 3 and 4 of the Directive on Copyright in the Single Digital Market (DSM directive): https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32019L0790.

115 As with many other legal issues concerning the relationship between copyright and the use of AI, this aspect is not yet fully resolved and is the subject of litigation.

116 See the CC FAQ: https://creativecommons.org/faq/#what-attribution-obligations-exist-when-cc-licensed-images-are-included-in-a-published-dataset-is-linking-to-the-original-image-or-uri-required-and-if-so-is-it-adequate.

117 See chapter 3.4.5 above.

118 See above, chapter 3.5.3.

119 Such as the EU Artificial Intelligence Act that regulates the development and distribution of AI technologies. For more detail, see https://artificialintelligenceact.eu.

120 This may, of course, not be universally true for every jurisdiction in the world and in every single case. For example, courts in China have decided in some cases in favor of copyright protection for AI works (see https://www.twobirds.com/en/insights/2024/china/copyright-protection-for-ai-generated-works-recent-developments). Whether such decisions will stand the test of time remains to be seen.

121 Such a case was the subject of a ruling at the US Copyright Office; see https://www.forbes.com/sites/mattnovak/2023/02/22/ai-created-images-in-new-comic-book-arent-protected-by-copyright-law-according-to-us-copyright-office/.

122 Only CC0, which is not a license but a public-domain declaration (see chapter 3.2.1 above), contains no attribution obligations.

123 This section (3.5.1 CCPL4) describes the rules for downstream uses. It deals with the question of what obligations the licensee must fulfill to comply with the license requirements. These rules do not apply to the licensor! As the rights holder, the licensor is completely free to decide what information, if any, she wants to provide to label her own material. In general, it should be remembered that CC licenses address only the downstream users (licensees), not the rights owners (licensors). Guidelines for licensors (for example: how do I attach the license? what license should I choose?) can be found in chapter 4 below.

124 Please note that the attribution requirements changed over different versions of the CC licenses. To assess the exact obligations in the actual use case therefore requires checking what license version is applicable. For the sake of simplicity and space, only the CCPL4 requirements are detailed here. For more information, see CC's comprehensive wiki that compares the different requirements of each license version: https://wiki.creativecommons.org/wiki/license_Versions#Attribution_and_marking.

125 Usually the user will be asked to credit the author's real name. However, if the licensed material refers to a pseudonym or was published anonymously, the user is requested to credit accordingly.

126 Section 3.a.2 of the CCPL4 legal code states: "You may satisfy the conditions in section 3(a)(1) in any reasonable manner based on the medium, means, and context in which You Share the licensed Material. For example, it may be reasonable to

satisfy the conditions by providing a URI or hyperlink to a resource that includes the required information." See the CC FAQ https://creativecommons.org/faq/#how-do-i-properly-attribute-material-offered-under-a-creative-commons-license. For more details, see Creative Commons' and Wikimedia's good practise guidelines referenced in note 128 below.

127 https://creativecommons.org/faq/#can-i-insist-on-the-exact-placement-of-the-attribution-credit.

128 See the Wikimedia guidelines: https://commons.wikimedia.org/wiki/File:Attributing_Creative_Commons_Content_-_A_guide.pdf and the Creative Commons "Recommended practices for attribution" https://wiki.creativecommons.org/wiki/Recommended_practices_for_attribution.

129 See chapter 3.1.1 above.

130 See the Wikimedia guidelines (https://commons.wikimedia.org/wiki/File:Attributing_Creative_Commons_Content_-_A_guide.pdf), p. 4.

131 This option is particularly useful for multi-authored works like Wikipedia articles. Naming every author of long and complex articles is neither reasonable nor practicable. Hence, it is common and legitimate to link to the "revision history" page of the article that is used. This contains all necessary information (title, authors, source, license). See, for example, the version history for the English article on Creative Commons: https://en.wikipedia.org/w/index.php?title=Creative_Commons_license&action=history. Wikimedia also provides a URL shortener to make the crediting even more convenient: (https://meta.wikimedia.org/wiki/Special:UrlShortener).

132 For comparisons between the different license versions, consult: https://wiki.creativecommons.org/wiki/license_Versions#Attribution_reasonable_to_means.2C_medium.2C_and_context.

133 https://wiki.creativecommons.org/wiki/Recommended_practices_for_attribution.

134 https://commons.wikimedia.org/wiki/File:Attributing_Creative_Commons_Content_-_A_guide.pdf.

135 A concise overview can be found at CC Australia: https://au.creativecommons.net/attributing-cc-materials/.

136 Many images are posted online without a title. Of course, every file needs a filename like IMG_7279.jpg for saving. Such technical filenames are usually not the work's title and do not have to be retained.

137 If the attribution requested by the licensor cannot reasonably be performed under the given circumstances, the downstream user may choose any other adequate way to indicate the licensor (section 3.a.2).

138 A URI (Uniform Resource Identifier) is a string of characters that identifies a resource. A Uniform Resource Locator (URL), i.e., an internet address, is one example of a URI. Yet the term URI is broader and not limited to web resources. A book's bibliographical data of a book, for example, is also a URI. See https://en.wikipedia.org/wiki/Uniform_Resource_Identifier.

139 In this author's opinion, the clause does not contain an obligation to research. The user is obliged only to retain the information given by the licensor. The obligation to indicate the source therefore first requires active action on the part of the licensor. If they want the original source to be named, they must name it themselves. Only then is the downstream user obliged to provide the information.

140 See https://wiki.creativecommons.org/wiki/Recommended_practices_for_attribution#Attributing_an_image.

141 https://commons.wikimedia.org/wiki/Main_Page.

142 https://openverse.org. Openverse is the successor of the now deprecated CC Search. It is maintained by Wordpress. See https://creativecommons.org/2021/05/03/cc-search-to-join-wordpress/.

143 https://wiki.creativecommons.org/wiki/license_Versions#Definition_of_.22NonCommercial.22.

144 In the licenses that allow commercial uses, the definition is omitted because it is not needed.

145 The license illustrates the general definition with a specific example: "For purposes of this Public License, the exchange of the Licensed Material for other material subject to Copyright and Similar Rights by digital file-sharing or similar means is NonCommercial provided there is no payment of monetary compensation in connection with the exchange."

146 A survey conducted by CC in 2008 revealed that creators and users have by and large a common understanding of the general meaning of the terms commercial and noncommercial. For details, see: https://wiki.creativecommons.org/Defining_Noncommercial. The study provides interesting insights but, due to its limited scope and non-representative character, cannot be used as a reliable source for legal interpretation.

147 The license text suggests that the NC clause relates first and foremost to the particular use case, whereas the general orientation of the user (as for-profit or not-for-profit) is a minor or even irrelevant factor. However, to ignore the user-related factor would, in this author's opinion, negate the view of licensors and licensees. For most people's notion of commercial and noncommercial uses, it will make a significant difference whether the user is, for example, a company or a public institution. See also Klimpel, 2013: "Free Knowledge thanks to Creative Commons licenses – Why a noncommercial clause often won't serve your needs", chapter 5, https://meta.wikimedia.org/wiki/File:Free_Knowledge_thanks_to_Creative_Commons_licenses.pdf.

148 See the perspective of Creative Commons on these and other "key points about the NonCommercial licenses": https://wiki.creativecommons.org/wiki/NonCommercial_interpretation#Key_points_about_the_NonCommercial_licenses.

149 This view is essentially in line with the official interpretation of Creative Commons: https://wiki.creativecommons.org/wiki/NonCommercial_interpretation#Key_points_about_the_NonCommercial_licenses.

150 Counterexamples would be, for example, a public museum printing a CC BY-NC photo on a postcard it sells. In that case the use would be commercial, although the institution itself is a nonprofit organization, whereas if a company funded a foundation that conducted a project to foster the public health system and used an CC BY-NC photo for the invitation to a conference (which was open to the public and free of charge), the use would be noncommercial. If, on the other hand, the company itself organizes the conference, there would be a strong indicator that the conference at least remotely served its business interests, i.e., that the use was at least "directed towards commercial advantage".

151 For example, if an employee of a company copies articles that are licensed under CC NC for their colleagues or customers of the company, the use is commercial if they only use the material to fulfill their job-related duties.

152 See chapter 3.4.5 above: The CC licenses do not apply to uses that are permitted by law. Hence, the license would not restrict any uses that are legitimate according to limitations or exceptions under the applicable law.

153 See chapter 3.4.5 above.

154 See the CC FAQ: https://creativecommons.org/faq/#how-do-the-different-cc-license-elements-operate-for-a-cc-licensed-database.

155 In the author's estimation, they are in line with the official interpretations, if any, of Creative Commons: https://wiki.creativecommons.org/wiki/NonCommercial_interpretation#The_NonCommercial_license_element.

156 See chapter 3.4.7 above on the meaning of the term "sharing".

157 See chapter 3.4.6 above.

158 In some cases, user rights or copyright exceptions will allow users to create and share "transformative works" (remixes, mash-ups etc.). For example, this is true under the US fair use doctrine or the "right to pastiche" in sec. 51a of the German Copyright Act (see Kreutzer/Reda 2023. The Pastiche in Copyright Law – Towards a European Right to Remix). https://copyrightblog.kluweriplaw.com/2023/03/13/the-pastiche-in-copyright-law-towards-a-european-right-to-remix/.

159 See the CC FAQ for a good overview: https://creativecommons.org/faq/#combining-and-adapting-cc-material.

160 See section 1.a of CCPL4: https://creativecommons.org/licenses/by-nc-nd/4.0/legalcode.

161 See the CC FAQ: https://creativecommons.org/faq/#what-is-an-adaptation.

162 See the CC FAQ regarding differences in the various jurisdictions around the world: https://creativecommons.org/faq/#what-is-an-adaptation.

163 There is not even a harmonized unitary concept of the terms "modification" and "adaptation" in European copyright law.

164 The term is explained in chapter 3.5.3 above and in the CC FAQ: https://creativecommons.org/faq/#what-is-an-adaptation and https://creativecommons.org/faq/#combining-and-adapting-cc-material.

165 See chapter 3.4.7 above and note 95 above.

166 The adapter's license is defined in section 1b of the CCPL4 legal code as "the license You apply to Your Copyright and Similar Rights in Your contributions to Adapted Material in accordance with the terms and conditions of this Public License".

167 See chapter 3.3 above.

168 In the licenses without SA element, the restriction can be found in section 2.5.B of CCPL4.

169 For example, an adapted version could be made available on a website whose terms and conditions require each user to report any use or to refrain from certain types of redistribution. Further information can be found at: https://creativecommons.org/faq/#what-if-i-have-received-cc-licensed-material-with-additional-restrictions. Remember: Like any other CC license rule, the "further restrictions" obligation applies only to licensees, i.e., adapters and other downstream users. Licensors are not affected; they are not themselves addressees of the licenses. Therefore, they can in principle use additional license agreements that, for example, impose obligations on their users beyond the CC license obligations. However, there are some issues to consider. See https://creativecommons.org/faq/#can-i-enter-into-separate-or-supplemental-agreements-with-users-of-my-work.

170 See chapter 3.5.3 above concerning the differentiation.

171 Combinations in the chart are those that qualify for adaptations according to the CC licenses. See https://creativecommons.org/faq/#can-i-combine-material-under-different-creative-commons-licenses-in-my-work.

172 Accordingly, material that is designated to be mixed and easily combined with other content should be published under licenses that are as permissive as possible (such as CC BY or CC0).

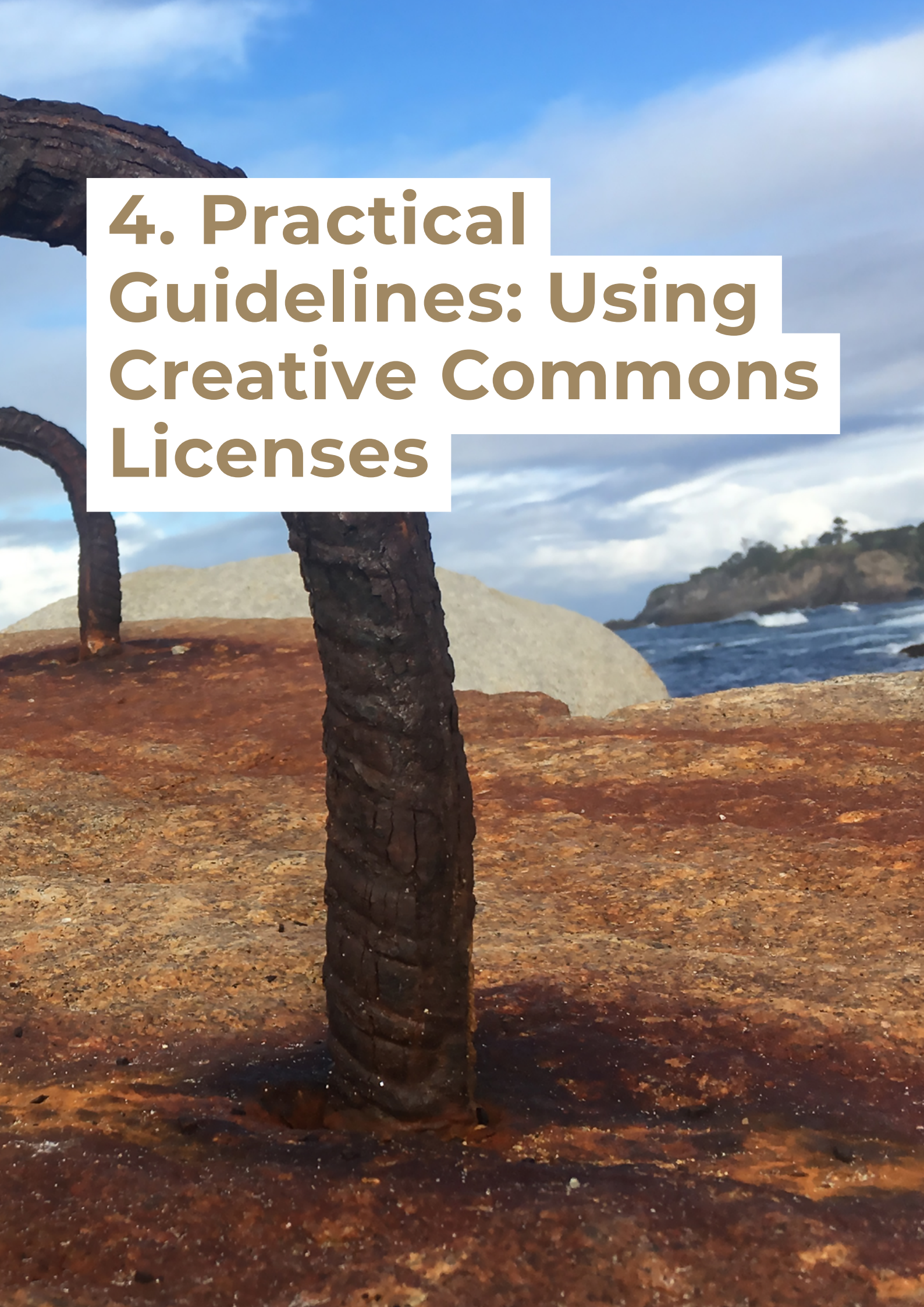
173 For the exceptions concerning compatible licenses, see the explanations in the paragraphs above.

174 For the German perspective see Jaeger/Metzger. 2011. Open Source Software. 5th edition. Beck, Munich 2020. Paragraph 53 (in German); From the US perspective: Meeker. 2012. The Gift that Keeps on Giving – Distribution and Copyleft in Open Source Software licenses. JOLTS - Journal of Open Law, Technology & Society. Vol. 4, Issue 1, p. 32. https://www.jolts.world/index.php/jolts/article/view/66.

175 Title? "Creative Commons 10th Birthday Celebration San Francisco"; Author? "Timothy Vollmer" — linked to his profile page; Source? "Creative Commons 10th Birthday Celebration San Francisco" — linked to original Flickr page; license? "CC BY 4.0" — linked to license deed.

176 https://creativecommons.org/faq/CC_license_Compatibility_Chart.png. CC explains the chart as follows: "The chart below shows which CC-licensed material can be remixed. To use the chart, find a license on the left column and on the top right row. If there is a check mark in the box where that row and column intersect, then the works can be remixed. If there is an 'X' in the box, then the works may not be remixed unless an exception or limitation applies. See below for details on how remixes may be licensed."





4. Practical Guidelines: Using Creative Commons Licenses

4.1 Choosing the "Right" License

Which Open Content license should you use? There is no single answer to this question. Which license might be preferable depends on what you are trying to achieve with the licensing. This has many facets that vary from situation to situation.

The license choice is of great importance for licensing to succeed. It should therefore be carefully considered before publication. Open Content licenses such as Creative Commons cannot be terminated or revoked.[177] If the material has been shared and distributed after publication, changes to the license can effectively only be made for new versions.

In practice, it can be observed that even among institutional licensors, newcomers to open licensing in particular tend to use licenses that are as restrictive as possible. There are many reasons for this. For example: "As a public institution we have to prevent our materials, produced with taxpayers' money, from being used commercially by companies, so we use NC licenses." Or: "We use ND licenses to prevent our images from being misused by political extremists for propaganda purposes." On closer inspection, such arguments, at least in their generalized form, typically have little substance. They usually conceal a reticence to relinquish control. This is, at least in some respects, paradoxical. After all, the very purpose of opening content is about giving up control; this is the very precondition for free sharing and distribution.

That said, it is also true that all license types have their advantages and disadvantages. The choice of the right license therefore depends on the individual case. It should be kept in mind that every additional license attribute, every additional license obligation and, above all, every restriction creates legal uncertainty. For example, hardly any layperson (and even few professionals) can judge exactly what "commercial" means in borderline cases. Apart from highly specialized lawyers, hardly anyone knows what effect ShareAlike has on complex combinations of works such as collages and multimedia teaching materials. The same applies to combinations of works published under different types of restrictive licenses.

Such legal uncertainty discourages use. Moreover, as the licensors themselves are usually not fully aware of the implications, collateral damage often occurs. For example, blanket restrictions such as "no derivative works" exclude uses to which the rights holder would in fact not object. Finally, most licensors, especially if they are the authors themselves,- are neither willing nor able to track and enforce license restrictions. In such cases the use of restrictive versions amounts to useless prohibitions that can only cause issues. This jeopardizes the goals that open licensing is intended to achieve. It is often the case that people refrain from any use at all, rather than trying to resolve legal uncertainties.

In short, the psychologically understandable impulse to maintain control and therefore to use restrictive license versions is at least worth questioning. Only when there are good and realistic arguments for doing so should they be used.

4.1.1 CC BY or CC0? Open Content vs. Public Domain

CC0 and CC BY have similar effects. They open up the material for any kind of use, regardless of who makes it and for what purpose. However, CC0 is even more permissive because it does not require any licensing obligations to be met. Whereas under CC BY the licensors claim at least their right to be credited, under CC0 no rights are reserved. Any downstream user can literally do what they want.

In comparison, CC BY and CC0 each has its upsides and downsides. For many rights holders, attribution obligations[178] play an important role. They ensure that credit and recognition is given for the creation and open sharing of the work. Attribution is also necessary for rights owners to realize the attention-related economical impacts of their work.

On the other hand, attribution obligations can also create complexity; it is not always easy to provide the necessary information, nor is it always clear to everyone how to comply in each individual case. CC0 can be the better option, especially for works of small size or low originality, and those that are primarily intended to be reused in new contexts. An example would be samples (if not permitted by law) or simple utilitarian graphics like logos and GIFs. Here, attribution obligations are often cumbersome to comply with and of little benefit to the licensor. They may do more harm than good.

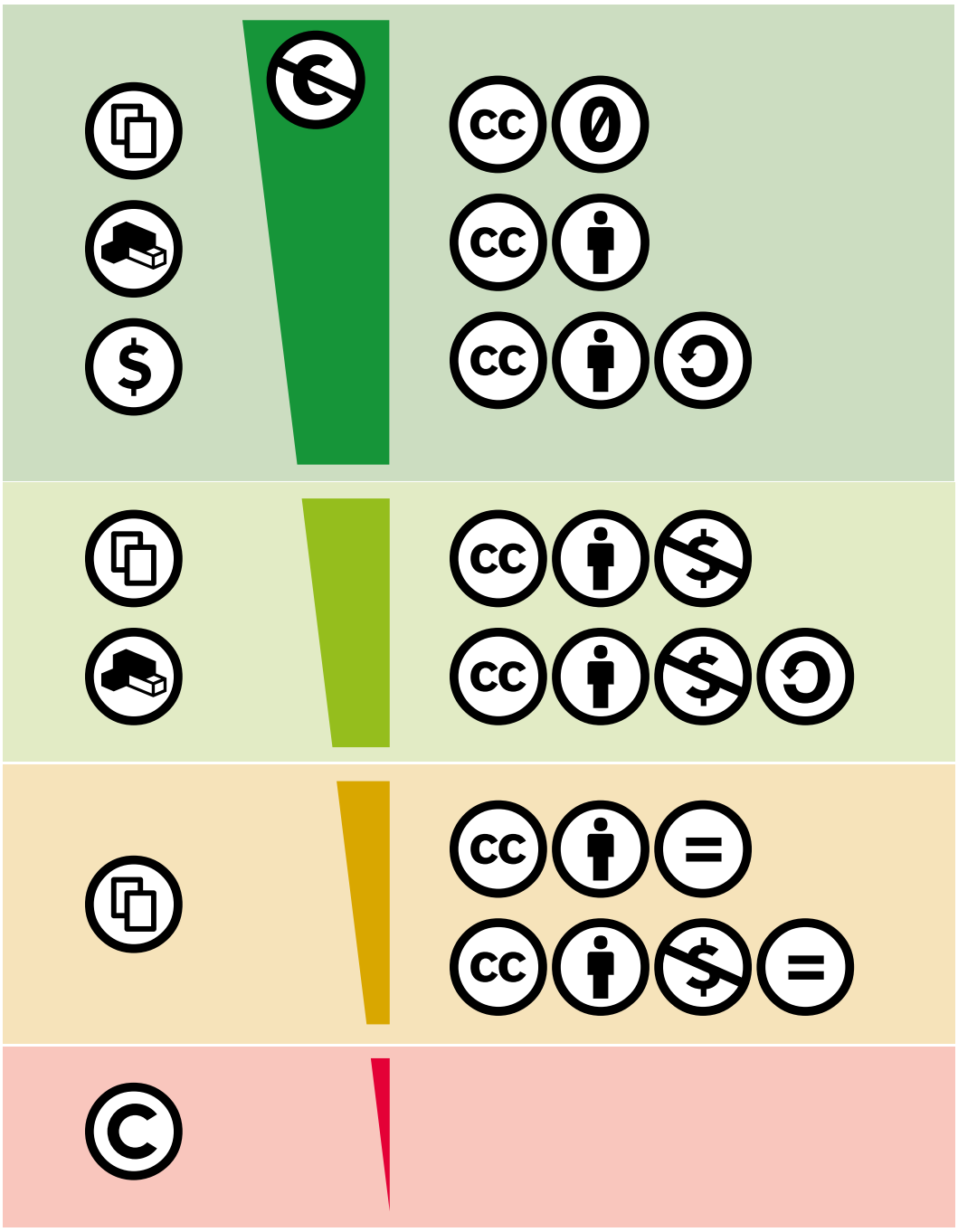
For material that is not protected by copyright, the answer is clear: Licensing, even under a very permissive license such as CC BY, is not an option for various reasons.[179] CC0 or the Public Domain Mark are therefore the preferred tools to mark public domain material.

4.1.2 Permissive and restrictive licenses

There are two basic categories of CC licenses: permissive and restrictive. Permissive licenses generally allow any kind of use. Neither specific uses nor user groups are excluded from permissive licenses. Anything is allowed under certain conditions. These licenses include CC BY and CC BY-SA. CC0 would also fall into this category if it were a license in the strict sense.[180] All other licenses containing the NC and ND restrictions (in various combinations) are restrictive licenses.

Permissive and restrictive licenses differ in the degree of freedom of use they allow. This is illustrated in the chart chart 4.

Chart 4:
Creative commons
license spectrum[223]



4.1.3 Objective advantages and disadvantages of permissive and restrictive licenses

There are many reasons why a licensor might choose one license over another. Subjective considerations will often play a role, which of course cannot be fully presented or weighed against each other here. However, there are objective arguments for or against a given license choice. Some of them are briefly described below.[181]

The more open and permissive, the easier to handle

A key advantage of permissive licenses is their legal certainty and comprbility. The fewer rules a license imposes, and the fewer restrictions it contains, the easier it is to reuse the licensed material. Restrictions such as NonCommercial and NoDerivatives, as should be clear from the above, are more or less vaguely defined license restrictions. Their interpretation requires a great deal of legal knowledge and is ultimately almost always open to a subjective assessment. This inevitably leads to legal uncertainty, at least in borderline cases.

Legal uncertainty leads to less use, less distribution, less publicity

The primary purpose of openness is to encourage its dissemination and facilitate its reuse. If there is legal uncertainty, licensees cannot trust that their use is legal. Legal uncertainty also has a negative impact on uses that are actually desired by the licensor and permitted by the license. In borderline cases in particular, there will often be no detailed examination of the legal situation, neither by individual users who are unable to do so nor by companies or institutions. In many cases, companies and institutions even blacklist restrictive license variants; in such cases, content licensed in this way is not used by default and without further examination.

License restrictions exclude desired uses

In particular, the NC element has a broad scope of application.[182] Its concrete scope cannot be determined in the abstract but depends on many factors: circumstances of the individual case, applicable law, subjective assessments, etc. In most cases, licensors are not even aware of what choosing an NC license means in detail. The enormous scope of the term "noncommercial" often leads to unwanted effects. For example, the authors of a health booklet may wish to prevent it from being reprinted or even sold by the pharmaceutical industry. However, very few people realize that NC also prevents doctors or physical therapists from distributing it to their patients, which is often not what they want.

Restrictive licenses are incompatible with definitions of openness

Arguably, restrictive licenses are not open in the true sense of the word. At the very least, they are generally not compatible with the common definition of "openness" in Open Access, Open Educational Resources (OER), and Free Cultural Works.[183] They also do not comply with Open Knowledge's "Open Definition".[184] With respect to NC restrictions, most definitions are ambiguous and inconsistent at least. However, licenses that do not permit the sharing of modifications (ND) do not fall under any of the relevant definitions.

Open access: The practice of providing unrestricted access to scholarly research and data online and of granting broad licenses to reuse them.

Restrictions are more or less useless without enforcement
When a work is published, especially on the internet, control over its reuse is effectively lost. Without the application of technological protection measures (such as copy protection or DRM), no-one is effectively prevented from copying and redistributing the work. Legal restrictions, whether in the form of license reservations or an "all rights reserved" approach, are only useful if you are prepared to enforce them. However, very few licensors are willing or able to do so. What remains is a largely ineffective legal restriction that rather negatively affects the desired uses.

ND protects the integrity of the work, but...
Unless individual permissions are granted, the ND element prevents sharing modified versions in every way. Thus the integrity of the work can be protected. Under certain circumstances there can be good reasons to do so. For example "certified information" required for regulation should in general not be modified by anybody other than the certifying institution. To publish technical standards and other norms under CC ND would make sense if they are copyright protected in the first place.

In most use cases, however, ND will instead have a detrimental effect on the openness of the licensed material. If licensed under ND, for example, didactic adaptations or translations of educational content cannot be shared. Creative content under ND cannot be remixed, used in mash-ups or otherwise published in adapted form without individual consent.[185] As a result, many important benefits of openness are lost.

In general, material with an informative purpose can benefit greatly from the possibility of modification. Modifications can improve or update the information contained therein or even iron out mistakes. A project such as Wikipedia, for instance, could not function under an ND license regime. Educational resources need to be modified and translated in order to make them useful in other parts of the world or for different target groups. Therefore, Open Educational Resources (OER) should not be published under ND licenses; that is the reason why ND material does not comply with the definition of OER.

NC can be useful for marketing strategies, but…
NC licenses can be beneficial for marketing, that is, for example promotional purposes. Freelance photographers may use them to draw attention to their content (which can at least be shared for noncommercial purposes) without also giving up control over commercial reuse. However, very few licensors have such ulterior motives. Objectively speaking, NC licenses generally only make sense if parallel marketing of the materials is desired and there exists a plan to market those materials. Without a business case, by and large, all that remains are the collateral effects: Legal uncertainty is created, and many desirable uses are excluded from the license (see above).[186]

SA is the better NC
SA licenses stipulate that adaptations may only be shared under the original license (or a compatible license; see chapter 3.5.4 above). Since adaptations also include derivative works and combinations of works, the SA element leads to a kind of "vaccination" or "viral" effect: Content combined with SA material can become "infected", which prevents traditional exploitation (selling licenses and/or copies of the work) of the combination. Traditional commercial users such as publishers or labels are thus generally reluctant to use SA material without further arrangements and individual agreements. As a result, they will try to buy their way out of the SA obligation. In this way, the individual contact is established, and the licensor is put in a position to ask for further conditions such as license fees. With SA, unwanted commercial reuse can often be prevented without excluding commercial use in general, as happens with an NC license.[187]

Restrictive licenses are not compatible with Wikipedia
Last but not least: Content under restrictive licenses cannot be integrated in Wikimedia projects such as Wikipedia or the free media archive Wikimedia Commons. All of their texts are under the CC BY-SA license. NC and ND licenses are not compatible with it,[188] so combinations of Wikipedia articles with content under such restrictive licenses are not permitted.

The following chart is intended to further illustrate the advantages and disadvantages of the various license elements.

Preliminary remark
The table gives a simplified overview of the general advantages and disadvantages of the basic CC licenses CC BY, CC SA, CC NC and CC ND. To be as illustrative as possible, licenses with multiple elements (such as CC BY-NC-ND) are not listed separately. In principle, it can be assumed that they have all the advantages and disadvantages of the included modules when accumulated.

Chart 5:
Advantages and disadvantages of CC license elements

CC BY

General license features

- Permits any type of use for any purpose for anyone; no license restrictions
- Most liberal CC license apart from the public domain declaration CC0
- License obligations: Attribution (author/copyright notice, source and license reference, change notices if any)
- License is compatible with OER, open source, open access, open culture and open data definitions

Pro	Con
→ Non-discriminatory, unhindered downstream use permitted	→ No individual control of specific uses (such as commercial use) possible
→ Minimal complexity through maximum openness	→ Attribution duties can be tricky in borderline cases
→ License is very easy to handle	
→ No per se exclusion of user groups	
→ No per se exclusion of purposes of use	
→ Compatible with all other licenses	
→ Suitable for Wikipedia (compatible with CC BY-SA)	

CC BY-SA

General license features

- Permits any type of use for any purpose for anyone: no license restrictions
- Binds subsequent uses and secondary publications to the original license (SA = copyleft); if adaptations are shared they must be licensed under CC BY-SA
- License obligations as with CC BY
- License is compatible with OER, open source, open access, open culture and open data definitions

Pro	Con
→ Non-discriminatory, unhindered downstream use permitted	→ No individual control of specific uses (such as commercial uses) possible
→ No per se exclusion of user groups	→ SA and attribution duties can be tricky in borderline cases
→ No per se exclusion of purposes of use	→ Difficulties in interpretation lead to legal uncertainty
→ Suitable for Wikipedia	→ Legal uncertainty may prevent users from using material
→ Due to the “vaccination effect”, de facto protection against commercial reuse in the proper sense	→ License is incompatible with most other licenses
→ Ensures the freedom of the material in all its iterations	
→ Prevents commercial appropriation	

CC BY-NC



General license features

- Permits any type of use, but only for noncommercial purposes
- License obligations identical to CC BY
- License is not compatible with OER, open source, open access, open culture and open data definitions

Pro	Con
→ Creates options for individual decisions on commercial use	→ Leads to interpretation difficulties → NC interpretation often unclear or difficult → Difficulties in interpretation lead to legal uncertainty → Legal uncertainty may prevent users from using material → Reservation of noncommercial rights excludes desired uses → Broad definition is mostly excessive; many uses are unintentionally excluded → Due to legal uncertainty and further license restrictions, license is often blacklisted → Not compatible with BY-SA, unsuitable for Wikipedia → Excludes important multipliers and intermediaries, thereby hindering reusability and distribution (openness) → Reservation of rights only makes sense with a marketing plan and a willingness to enforce the law

CC BY-ND

General license features



- Permits any type of use, but only of the unmodified material
- License obligations identical to CC BY
- License is not compatible with OER, open source, open access, open culture and open data definitions

Pro	Con
→ Integrity of the material is legally ensured by reservation of rights → No per se exclusion of user groups or purposes	→ Leads to interpretation difficulties → Interpretation of ND often unclear and/or difficult, especially in combinations of material → Difficulties in interpretation lead to legal uncertainty → Legal uncertainty may prevent users from using material → Reservation of modification rights excludes desired uses → Especially in a teaching and learning context, adaptations are usually necessary and essential for subsequent use → Reuse of excerpts or parts in other contexts (mixing, combining) excluded or legally uncertain → License not compatible with BY-SA, unsuitable for Wikipedia

4.1.4 Pros and cons of ported versions

While it is understandable that licensors might prefer a license tailored to their language and jurisdiction, the answer to the question of whether ported versions[189] are advantageous depends on a number of complex considerations. Ultimately, it can only be determined on a case-by-case basis. Only a few brief remarks can be made here on aspects that should generally be considered.

At first glance, it might seem beneficial for, say, a French rights holder to use the French ported CC license for their works. To begin with, a license in one's mother tongue is linguistically easier to understand.[190] Also, it is easier to estimate the legal implications when the license is based on one's own national law. Furthermore, the French license will contain a choice-of-law clause according to which the license contract and all other potential issues are governed by French law.[191] This rule simplifies the legal relationships between multinational licensees and the licensor because it designates one definite jurisdiction as the applicable law. Without a choice-of-law clause, the identification of the applicable law can be very complex, since it may vary depending on the nationality of the particular licensee or their place of residence.[192]

However, it must be kept in mind that it will in no way be easier or more legally secure for the licensees abroad to comply with a foreign legal regime. More legal certainty on the part of the licensor therefore often results in less legal certainty for the licensee. Legal uncertainties, in turn, can constrain the use of the work, which the licensor actually wishes to encourage.[193]

Therefore, international and/or unportable CC licenses with their multi-jurisdictional approach may ultimately be seen as beneficial, especially for online content. The same is true for licenses used for multinational, multi-author collaboration projects. It would make no sense to use a ported license for Wikipedia, for example. The result could and would be, in many cases, that the designated jurisdiction was alien to both the licensor and the licensee.[194] In such projects the solution of private international law to define the applicable law is more suitable, despite its potential complexity. It would most likely result in the applicability of either the licensor's or the licensee's national law — hence, a workable solution.

4.1.5 Pros and cons of SA licenses

As already explained above, SA licenses also lead to interpretation problems. In addition, the problem of license incompatibility is particularly pronounced in these cases.[195] It is unlikely that this can be systematically resolved in the foreseeable future. Despite the increasing efforts to solve the compatibility problem one way or another, it is undeniable that little success has been achieved so far. However, solving the compatibility problem may be regarded as a key condition for the success of the whole system. A creative commons, in its proper meaning, can only serve its own purpose when the content contained can be used and reuse creatively. Incompatible licenses are an obstacle to this core objective.

As SA licenses amplify the problem of license incompatibility, their use should be considered thoroughly. In general, the ShareAlike principle is convincing: Open Content should stay open in all its forms and iterations. In some contexts, such as massive multi-author projects like Wikipedia, this function is a key feature.[196]

There are essentially two arguments for and against SA licensing. On the one hand, overly permissive licenses enable the appropriation of Open Content by pulling it out of the cultural commons. On the other hand, more permissive licenses are much easier to handle. It might even be argued that they provide more incentive to use the content.

In the end, the licensor has to balance the different motivations: Is it more important to ensure sustainable openness of the material (in which case CC BY-SA would be the appropriate license) or to encourage as much interest in the use as possible (in which case CC BY or CC0 is the better choice)?

4.1.6 Marking and licensing data with CC

A frequently asked question is whether data should be licensed under CC licenses in order to make it available for free reuse and circulation as open data. The answer depends on whether the data in question is protected by copyright.[197]

Copyright is only applicable for human-made creative achievements. Facts and information are neither creations nor works in terms of copyright. In fact, they are not created by humans; they simply exist.[198] Accordingly, there is no ownership in such data;[199] it cannot be protected by copyright but is per se in the public domain.[200]

This applies without exception to research data, personal data, bibliographic data, meteorological and geospatial data and any other facts. Research data, such as the findings from a social science study, are in the public domain per se.[201] Whether it was difficult, expensive or challenging to generate the information is irrelevant. It can be reused, copied and distributed by anyone for any purpose without restriction.

Hence, there is no need for a license. In fact, such data cannot and should not be released under CC licenses for several reasons:

1. **It would make no sense:** The purpose of an open license is to allow uses that would otherwise be illegal because of an intellectual property right (such as copyright). The license is intended to provide freedoms that would not otherwise exist. Licensing rights-free data would counteract the very idea of openness. For example, attaching a CC BY license to factual data would only restrict the per se unrestricted freedom of use. This would mean that an author of facts would have to be named, someone who, in the end, does not exist — no one created the facts.
2. **It would not work:** Data that is in the public domain can neither be licensed nor made open. The CC license is not applicable to "material in the public domain".[202]

Hence, facts and information can and should be labeled with public domain declarations such as CC0 or the CC public domain mark.[203] They are the right tools to inform users about the "no copyright" status.[204]

On the other hand, when we talk about data as copyrighted content, public licenses are necessary to open them. Open access for a research paper, for example, can only be achieved by either licensing it under an Open Content license or releasing it into the public domain by a declaration like CC0. Note that the facts and information contained in the paper are still free of rights and can be used without restriction.[205] The same is true for databases that are protected by copyrights or sui generis database rights.[206]

4.2 The Right Licensing Strategy: Centralized vs. Decentralized Schemes

There are many different Open Content publication strategies. However, designing a sustainable and effective strategy can be tricky. Some of the options require transferring rights prior to the actual publication under the public license, while others do not. Which model is feasible depends on the individual situation. Two major approaches shall be exemplified here using the online encyclopedia Wikipedia:

Wikipedia is a massive multi-author collaboration project. Anyone who wishes to contribute is invited to do so. Authors can upload new articles and modifications of existing articles themselves. All contributions are published under the same CC license (CC BY-SA).[207] There are two major approaches to licensing in such a project: either every author acts as licensor for their own contributions, or all rights are consolidated in a central body, for instance, in the Wikimedia Foundation, which then acts as licensor for all published content. The first alternative might be called a decentralized licensing scheme, the latter a centralized one.

The decentralized licensing scheme

The founders of Wikipedia opted for a decentralized licensing scheme. The authors who contribute copyright-protected articles or who edit existing articles in the encyclopedia keep their exclusive rights and license them directly to the users. No rights are transferred to the Wikimedia Foundation, which, in turn, does not and cannot act as the licensor for the articles. In this scenario, from a copyright perspective, Wikimedia acts as a platform provider and hosting service rather than as a publisher.[208] This model can also be applied to other publications, such as edited volumes, open access repositories, image and video platforms, books and even co-authored texts or videos. The principle is simple: Unlike traditional publishing and licensing models, the publisher (if the term is even appropriate for platform providers) is neither the central rights holder nor the licensor of the published content. Authors retain their exclusive rights and use the Open Content license to license them on a non-exclusive basis to anyone, including the publisher or platform provider itself. In many cases, the granting of an Open Content license will be sufficient to legitimize the provider's own use.[209]

However, in certain situations, the public license grant might not be broad enough to entitle the publisher sufficiently. Take, for example, a publisher who would like to print and sell an anthology with articles written by a number of authors. The articles are to be published under an NC license directly by the authors, allowing them to keep their exclusive rights. The anthology is sold as a printed book, among other formats.

Under this arrangement, the CC license does not cover the publisher's own use, because selling a book counts as a commercial use. The publisher must conclude an additional agreement with the authors that entitles the publisher to commercially exploit the articles. This additional agreement might be a written contract or a one-way container license. The right to commercially exploit the work might be granted on a general basis or restricted to a particular book publication.

The centralized licensing scheme

Alternatively, all rights could be transferred to the publisher, who would then act as the licensor for the work under the Open Content license. This option would require the conclusion of individual license contracts between the authors and the publisher prior to publication.

To give an example: Assume Wikipedia followed a centralized licensing approach. All rights would have to be transferred to the Wikimedia Foundation (or to a different legal body) which would then act as the licensor of the CC licenses granted to the foundation by the individual authors for the Wikipedia articles. To accomplish the transfer of rights from the authors to the publisher, contributor agreements would have to be concluded with every author. These are also known as inbound licenses.[210]

The scope of the inbound license must comply with the outbound license in order to establish a proper licensing chain.[211] In this context, it is inevitable that the authors will grant exclusive rights or even assign their rights completely to the publisher,[212] since non-exclusive licenses usually (depending on the relevant national jurisdiction) do not allow for relicensing or the transfer of rights to third parties. In addition, the license grant must be unrestricted in terms of territory and duration. Since the Open Content licenses grant users worldwide and perpetual rights to use the work, the licensor's rights must be equal in scope.

Whether and to what extent the scope of the licensed rights can and should be restricted in the inbound license also depends on the outbound license, i.e., the Open Content license. For example, if the outbound license is a NonCommercial (NC) license, the inbound license (contributor agreement) could also be restricted to noncommercial use. Or, if the project chose a NoDerivatives (ND) license as the outbound license, there would be no legal need for authors to transfer modification rights to the publisher. Whether such restrictions are recommended depends on the specific case. In some cases, it might be reasonable to leave the individual decision, for example, regarding commercial use, to the author. In other cases, practical or financial considerations may suggest that all licensing decisions should be made by a central body.

Furthermore, the inbound license should explicitly mention that it allows the publication of the covered works under a public license. This is especially important because in some jurisdictions it is mandatory to obtain explicit permission from the author in order to be able to sublicense and/or transfer rights to third parties. Although this might not be the case in every jurisdiction, the author must still be made aware and should therefore be informed that the work will be published as Open Content. The use of a work published as Open Content can be far more extensive than in a controlled licensing scenario. Especially when the outbound license permits modifications, moral rights of the author can be affected by the end users.

Determining which alternative, the centralized or the decentralized licensing scheme, is preferable depends on the particular situation. At first glance, it might be argued that the decentralized approach is less complex to organize. For instance, it does not require complex licensing management between the publisher and the authors. In addition, it prevents liability issues for the publisher. If the publisher acted as licensor, they could be made liable for the provided content. If the individual authors acted as licensors, questions of liability would usually only affect them. In Wikipedia, for instance, the author is the only person who knows the content and the history of the contribution. It would thus be fair to decide that they alone should be responsible for it.[213]

Especially in massive multi-author collaboration projects such as Wikipedia, a centralized licensing approach or rights management system would be very complex, not least because of the multitude of "micro-contributions". It would require the centralized licensor to handle millions of individual copyrights and inbound licenses. But this could also be said for smaller ventures. Take, for example, a research institute that wishes to publish an anthology under a CC license containing articles from 20 different authors. Not long into the negotiations, it turns out that the authors cannot agree upon a uniform licensing model. While some do not agree with public licensing at all, others wish to submit articles that have already been published in a journal. The latter cannot be licensed as Open Content, because the authors have already transferred their exclusive rights to the previous publisher and reserved only non-exclusive rights to republish them. Among those who support an Open Content publication, some are in favor of a permissive license, for example, CC BY, whereas others would like to reserve the right to commercially use their work and therefore favor a CC BY-NC approach.

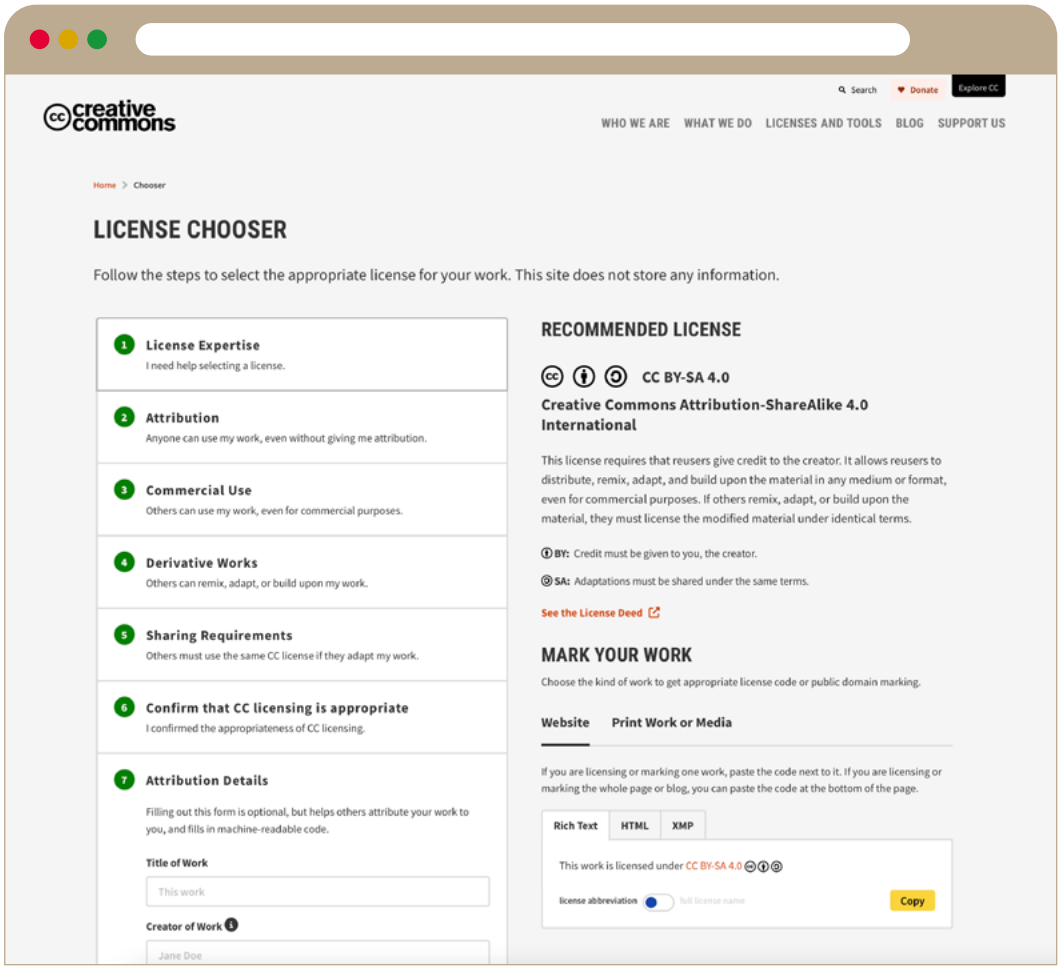
In a decentralized model, every author could decide individually about the outbound licensing of their contribution.[214] Those in favor of an Open Content license could publish their article under any public license. The others might reserve all rights. The centralized model, on the other hand, would require the institution to either adopt a take-it-or-leave-it approach or negotiate individual licensing agreements with each author. Such an effort would take time and money.

On the other hand, there might be a variety of reasons for having a single, central licensor. It could, for example, be advantageous for commercial publishers to hold all entitlements. Especially in massive multi-author collaboration projects, basic decisions about the licensing scheme would be much easier to realize than in a decentralized model, where every rights holder would have to be asked for permission in order to be able to change the project's license, for instance. Generally speaking, if crucial decisions about licensing, marketing strategies or business models depend on the approval of a number of individuals, problems will most certainly arise, as such decision-making structures are highly unpredictable and almost impossible to control.

The bottom line is that decisions about publication models and licensing schemes need to be well-considered. Every approach has advantages and disadvantages which must be balanced against each other. This is especially important because such decisions cannot be easily revoked and will most probably be crucial for the success of the project.

4.3 Generating the License

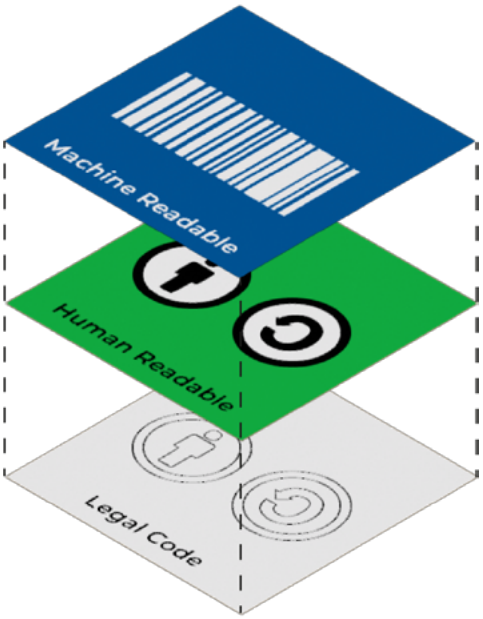
Generating a CC license for your work is very simple. First, open the link to the "License Chooser" on the CC website.[215] There you will be asked some basic questions to determine the license elements (BY, ND, SA, NC). The tool will guide you through some more simple questions should you be unsure what license to choose. You will be asked to enter some data to complete the TASL information (title, author, source, publication date).[216] Voila: The License Chooser displays all relevant attribution information, the license text and links. Moreover, HTML and XMP snippets are automatically generated that can be integrated into files, content management systems or websites.[217]



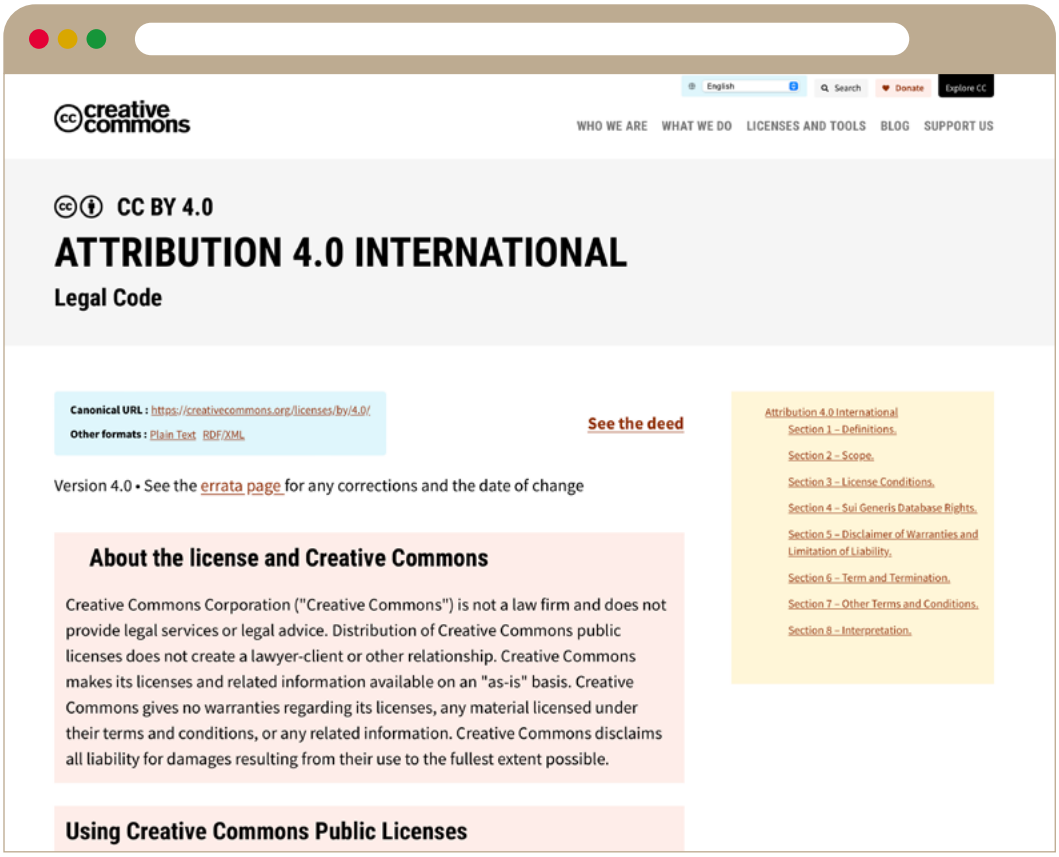
The CC licenses consist of three layers.[218]

The basic layer is the Legal Code, the full text of the license contract, written in legalese. This layer is the main element from a legal perspective, although most non-lawyers will never read it in detail. The middle layer is the CC Deed, also known as the human-readable version. The Deed is a short summary of the most relevant terms and conditions of the license. The Deed is not itself a license in the legal sense. It serves only as a handy tool to make the rules of the license easily understandable. As CC puts it: "Think of the Commons Deed as a user-friendly interface to the Legal Code beneath, although the Deed itself is not a license, and its contents are not part of the Legal Code itself."[219] The upper layer is the machine-readable version of the license. It is a machine-readable code snippet to be implemented in files or websites that enables search engines to locate Open Content.

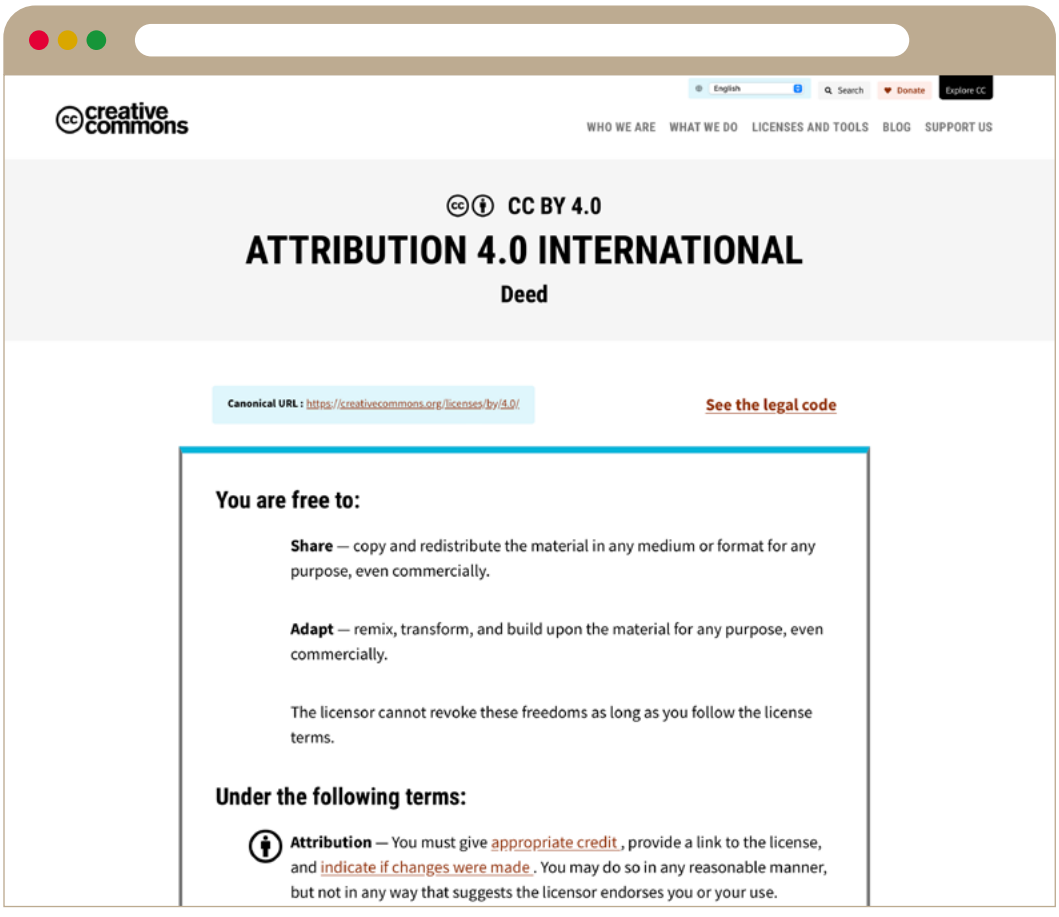
Figure 3:
The three Layers of Creative Commons licenses



The Legal Text of the Creative Commons licenses is the main element from a legal perspective.



The Deed serves to help users understand the main criteria of the respective license



```
<p xmlns:cc="http://creativecommons.org/ns#" >This work is
licensed under <a href="https://creativecommons.org/licenses/
by-sa/4.0/?ref=chooser-v1" target="_blank" rel="license noopener
noreferrer" style="display:inline-block;">CC BY-SA 4.0<img sty
le="height:22px!important;margin-left:3px;vertical-align:text-
bottom;" src="https://mirrors.creativecommons.org/presskit/icons/
cc.svg?ref=chooser-v1" alt=""><img style="height:22px!important;m
argin-left:3px;vertical-align:text-bottom;" src="https://mirrors.
creativecommons.org/presskit/icons/by.svg?ref=chooser-v1" alt=""><img
style="height:22px!important;margin-left:3px;vertical-align:text-
bottom;" src="https://mirrors.creativecommons.org/presskit/icons/
sa.svg?ref=chooser-v1" alt=""></a></p>
```

HTML -Snippets enable search engines to find freely licenced content on the Internet.

4.4 Attaching Creative Commons Licenses to Different Works

Once the appropriate license has been generated, the next questions are where and how best to attach the license, author and source information (hereafter collectively referred to as "notices"). There are several very good guides that detail best practices for attaching CC licenses to material. The author particularly recommends the official guide on the CC Wiki, entitled "Marking your work with a CC license".[220]

This document has made reference to this and other useful guides for concrete practical examples. Rather than replicating them, some principles are described below that are helpful when considering how licensors should provide their notices.

1. The answer to the question of where and how licensors should place notices concerning their material is not the same as the question of how licensees must fulfill their attribution obligations.[221] Of course, there are similarities between the two. However, they differ significantly in that the CC license obligations only apply to the downstream user. CC licenses set rules for the reuse. The rights holders and/or licensors themselves are in no way obliged by the license. Whether they use CC licenses and how they indicate license, author and source information is entirely up to them. Thus the examples of good or best practice mentioned above, and the explanations that follow, are intended only to serve as advice to help you decide what is reasonable and appropriate in the circumstances.
2. The purpose of the license is to grant rights to downstream users so that they can freely use the protected material in accordance with the license. In order for the granting of rights to work, it is essential that users are aware of the license and its rules. To ensure this, the work must be labeled with a reference to the applicable license.
3. To ensure that attribution obligations are complied with as desired, clear, understandable and easy-to-find notices should be provided. They should be placed in such a way that they cannot be easily lost.
4. Notices should be as obvious as possible for users. "Obvious" in this sense has at least two meanings: On the one hand, the information should be as easy to find as possible. This primarily concerns the "where" of the notices. On the other hand, they should be as easy as possible to understand and comprehend in the particular context of use. This has to do with the "how".
5. Where: The main rule of thumb for the best way to place CC notices is as follows: the closer to the work, the better! Of course, practical considerations such as technical feasibility and aesthetics also play a role. These vary from case to case and are sometimes just a matter of taste.

6. Information attached directly to the work is generally better than remote references. Images published on websites are therefore best labeled in the caption. If you wish to avoid this for aesthetic or technical reasons, you may also bundle the references on a central website. However, clear links from the images to the respective notice (for example, inline links) should be provided. This is even more important when a publication (such as a website or a book) uses differently licensed material. This will often be the case if it contains both your own and third-party content. In the case of third-party material, attribution requirements must be met. Under TASL rules,[222] the title, author, source and license must be identified and linked where appropriate. Under no circumstances should you give the impression that you, as a reuser, are granting a license for third-party material, let alone that you are the author. This would violate the licensing rules for the third-party content.
7. Which method is the best in this sense depends on the publication medium and the particular circumstances of its use. Obviously, it makes a difference whether the license notices are given in a radio show or on a website. The aforementioned CC guidelines differentiate between different media and use cases and make suggestions for the implementation of the notices.
8. How: The instructions should be as easy as possible to understand in the intended reuse situation. Typical use situations constitute an important factor in determining how best to implement the CC notices. For example, podcasts are made to be listened to. Listeners are often on the move, doing sports, driving a car or otherwise occupied. They cannot be expected to look at a screen while listening. Although spoken instructions correspond to this typical usage situation, not all information in the spoken word can be easily perceived. This is particularly true of URLs (license or source references). There is little point in reading them aloud. It is therefore common and generally sensible to include the information in the accompanying text information rather than directly in the podcast.

4.5 Finding Open Content Online

There are literally billions of works available online that can be used under Open Content licenses. You can find not only images and text, but also music, films, educational materials, scientific papers and sounds. Unless you are looking for something very specific for which there is no substitute, you will find content that suits your needs and preferences. The best way to do this is to use either general or specialized search engines or platforms. There are numerous sites and tools to browse for open and public domain content. The more specialized tools such as Openverse provide useful features for uploaders and downstream users that generate CC notices automatically. See the chart below for examples.

Chart 6: Sources of Open and Public Domain Content

Name of the tool + URL	Type of tool	Audio	Video	Images and graphics	Sounds	Texts	Functions to generate CC attribution notices	License
Europeana europeana.eu	Comprehensive collection	Yes	Yes	Yes	Yes	Yes	Yes	Various licenses, including CC, Public Domain
Flickr flickr.com	Image and video database	No	Yes	Yes	No	No	Yes	Various Creative Commons, Public Domain
Google Extended Search google.com/advanced_search	Search engine	Yes	Yes	Yes	Yes	Yes	No	Various Creative Commons
internet Archive archive.org	Comprehensive collection	Yes	Yes	Yes	Yes	Yes	No	Various licenses, including Public Domain
MIT OpenCourseWare ocw.mit.edu	Educational resource	Yes	Yes	Yes	Yes	Yes	No	CC BY-NC-SA
Openverse openverse.org	Comprehensive search	Yes	Yes	Yes	Yes	Yes	Yes	Various Creative Commons, Public Domain
Pexels pexels.com	Image and video database	No	Yes	Yes	No	No	No	CC0-style license (no rights reserved for commercial and noncommercial use, no attribution required, but several restrictions for competitive uses)
Pixabay pixabay.com	Image database	Yes	Yes	Yes	Yes	No	No	CC0-style “Pixabay license” (no rights reserved for commercial and noncommercial use, no attribution required, but several restrictions for competitive uses)
Unsplash unsplash.com	Image database	No	No	Yes	No	No	No	CC0-style “Unsplash license” (no rights reserved for commercial and noncommercial use, no attribution required, but several restrictions for competitive uses)
Wikimedia Commons commons.wikimedia.org	Comprehensive search	Yes	Yes	Yes	Yes	Yes	Yes	Various Creative Commons, Public Domain
Wikipedia wikipedia.org	Encyclopedia	No	No	Yes	No	Yes	Yes	CC BY-SA
ccMixter ccmixter.org	Music database	Yes	No	No	No	No	Yes	Various Creative Commons

177 See chapter 3.4.10 above.
178 See chapter 3.1.1 above.
179 See below, chapter 3.1.1.
180 CC0 is a public domain declaration. See chapter 3.2.1 above.
181 See also the CC Wiki for general considerations about the choice of NC licenses: https://wiki.creativecommons.org/wiki/NonCommercial_interpretation#Choosing_NC_for_your_content.
182 See chapter 3.5.2 above.
183 For the definition, see https://en.wikipedia.org/wiki/Definition_of_Free_Cultural_Works. In chart 4 („Creative commons license spectrum", see chapter 4.1.2 above), only the licenses listed in the dark green area are compatible with the definition of Free Cultural Works.
184 "Open means anyone can freely access, use, modify, and share for any purpose (subject, at most, to requirements that preserve provenance and openness)." See https://opendefinition.org/.
185 Such uses may be permitted under legal permissions such as fair use or limitations. Statutory copyright permissions, however, are always rather limited (yet do not result in openness) and difficult to assess and interpret.
186 See for more details: Klimpel. 2013. Free knowledge thanks to Creative Commons licenses – Why a noncommercial clause often won't serve your needs. Chapter 10 and 16, https://meta.wikimedia.org/wiki/File:Free_Knowledge_thanks_to_Creative_Commons_licenses.pdf.
187 Klimpel. 2013. Free knowledge thanks to Creative Commons licenses – Why a noncommercial clause often won't serve your needs. Chapter 7, https://meta.wikimedia.org/wiki/File:Free_Knowledge_thanks_to_Creative_Commons_licenses.pdf.
188 See section 3.5.4 above.
189 For more on the CC license porting in general above, see chapter 3.3.
190 However, this is also true for simple translations of international and/or unported licenses. The international versions are available in many languages.
191 The international and/or unported licenses do not contain a choice-of-law rule. The clause that addressed this topic in CCPL3 (section 8f) was not included into CCPL4.
192 The determination of the applicable law depends on the rules of private international law. These rules can vary from country to country. Hence, without a choice-of-law rule in the license, it can occur that, for example, Canadian law determines a different applicable law than Spanish law for a license that was concluded between a Canadian rights owner and a Spanish user. The possible result is that the applicable law differs from one licensor-licensee relationship to another.
193 Obviously, only users who read French can understand French license text. Furthermore, the national licenses generally use specific terms of the respective jurisdiction. Their interpretation can be challenging even for foreign lawyers who are native speakers (for example, Franco-Canadian lawyers applying French law).
194 For example, in a case where a Russian user (licensee) uses a Brazilian author's article on a website.
195 See 2.4.10 above concerning this aspect.
196 Wikipedia articles are licensed under CC BY-SA. The license ensures that the articles stay open even after they are extended, updated and improved.
197 Note that this chapter is not about the licensing of databases. For that topic, see above, chapter 3.4.2.
198 Facts are not created, but at best discovered by humans. Copyright, however, does not protect discoveries, only creative expression.
199 The freedom of facts and information is a fundamental principle of copyright law. If they were protected by copyright, they would be subject to a legal monopoly and the far-reaching restrictions of copyright law. Their reuse would be subject to the consent and conditions of the copyright holder.
200 See also the CC FAQ: https://creativecommons.org/faq/#which-components-of-databases-are-protected-by-copyright.
201 A paper that uses the research data as a basis may, however, be protected; see below.
202 See section 8.a CCPL4, chapter 3.4.5 above and the CC FAQ: https://creativecommons.org/faq/#how-do-cc-licenses-operate.
203 For the CC public domain tools, see chapter 3.2 above.
204 Strictly speaking, CC0 is a tool used to release copyrighted material into the public domain. In fact, the PDM is the tool of choice for labeling public domain content and data as copyright-free. However, copyright status is often not easy to clarify. In such cases, CC0 may be the better option for declaring a copyright-free status.
205 See the CC FAQs: https://creativecommons.org/faq/#how-do-i-know-whether-a-particular-use-of-a-database-is-restricted-by-copyright.
206 See chapter 3.4.2 above.
207 See more information about this license, chapter 3.1.2.
208 Apart from the licensing aspect, the Wikimedia Foundation of course serves as much more to Wikipedia than a mere platform provider. It is, for example, responsible for the governance structures and many other essential elements.
209 This might not be relevant for mere platform providers who will usually not be regarded as users in terms of copyright law and therefore do not need a license. A platform provider, in the proper sense, does not use protected content in terms of copyright law but merely supplies the technical infrastructure to enable the platform's users to make content available. However, for instance, a publishing house that publishes books will inevitably obtain a copyright license to do so, since printing articles in a book and selling or making them publicly available in digital form are uses that fall into the scope of copyright law.
210 An inbound license refers to a contractual agreement between the authors and the publisher. An outbound license is a license between the publisher and the users, in this case the CC license.
211 This is because of the need for a proper chain of entitlement. The licensor cannot grant rights that they do not own or that they are not allowed to dispose themselves. See chapter 2.4.5 above for more details.
212 From a legal perspective, there are several approaches to design contributor agreements. Some jurisdictions, especially copyright systems based in common law, allow for an assignment of copyright. Whereas a license is a permission to use the copyrighted work owned by another party, an assignment is a transfer of the copyright itself — one might say a transfer of ownership. Some contributor agreements are based on licensing, others on the assignment approach. However, the continental European author's-rights regimes such as Germany and Austria do generally not allow for an assignment of the author's rights. For an overview, see: Maracke. 2013. Copyright Management for Open Collaborative Projects: Inbound Licensing Models for Open Innovation. SCRIPTed, vol. 10, issue 2, p. 140; https://script-ed.org/wp-content/uploads/2013/08/editorial.pdf.
213 This aspect would become relevant when an article infringed the rights of a third party, for example, copyrights. If the contributor themselves was the licensor, they would be responsible and liable. The platform provider might be obliged to remove the infringing article from the platform, but they would not be liable for damages. If the platform provider acted as a content provider, i.e., as licensor, they could also be held liable for damages. Details of these questions will, however, depend on the applicable law and vary between jurisdictions.
214 Unlike in a massive multi-author collaboration project such

as Wikipedia, diverging outbound licenses should not be too problematic in such small publications. Hence, a uniform license scheme can be considered.

215 https://chooser-beta.creativecommons.org/. For a detailed step-by-step manual, see https://wiki.creativecommons.org/wiki/Marking_your_work_with_a_CC_license.

216 See chapter 3.5.1 above for more details.

217 For online publications, it is highly recommended to copy and paste metatags into the site's source code. Proper meta-information is essential, especially for search engines to interpret the license information properly and thus create correct search results.

218 See a demo with explanations at https://labs.creativecommons.org/2011/demos/license-layers/.

219 https://labs.creativecommons.org/2011/demos/license-layers/.

220 https://wiki.creativecommons.org/wiki/Marking_your_work_with_a_CC_license. This author also highly recommends the guide from the Wikimedia Foundation entitled "Wikimedia Commons: Attributing Creative Commons Content - A guide" (https://commons.wikimedia.org/wiki/File:Attributing_Creative_Commons_Content_-_A_guide.pdf). This guide deals with the similar, but not identical - question (see below) of how licensees can comply with the attribution obligation.

221 For this aspect, see chapter 3.5.1 above.

222 See chapter 3.5.1 above.

223 "Creative commons license spectrum", by Shaddim; original CC license symbols by Creative Commons, https://en.m.wikipedia.org/wiki/File:Creative_commons_license_spectrum.svg#file, CC BY 4.0 International (https://creativecommons.org/licenses/by/4.0/deed.en).





5. Final Remarks

Open Content licenses have tremendous potential to enable the legal and transparent sharing of copyright-protected content. They provide a framework that benefits both content creators and users, facilitating a collaborative and accessible environment for creative works. However, as a legal tool, licenses are not entirely foolproof nor always easy to use. Rights holders and users should familiarize themselves with potential challenges.

For users, understanding the responsibilities tied to Open Content licenses is crucial. Following the rules of these licenses not only ensures legal compliance but also shows respect for the creators who generously share their work. Users should familiarize themselves with the terms of each license, such as attribution requirements, to properly honor the creators' contributions. There is a wealth of instructive and easy-to-understand material freely available.

For creators, choosing the right license for their work involves careful consideration. Open Content licenses range from permissive to restrictive; selecting the appropriate one depends on the creator's goals. While restrictive licenses such as NonCommercial licenses can seem appealing, they might inadvertently undermine the creator's original objectives of broad dissemination and impact.

Creators should thoughtfully consider which license best suits their intentions. A well-chosen license can enhance the reach and influence of their work, fostering an open and dynamic sharing environment. Both users and creators benefit from engaging with Open Content licenses thoughtfully and responsibly, ensuring the continued growth of the free culture movement.

By keeping these considerations in mind, the community can thrive in a way that respects legal boundaries and ethical standards, promoting an enriching culture of sharing and creativity.



Glossary



Adaptation/adapted material:
A work that has been modified or transformed from its original form.

All Rights Reserved:
A traditional copyright notice indicating that all copyrights are reserved by the creator.

Attribution (BY):
An element of the Creative Commons license that requires attribution of the author when the work is used.

Automatic termination clause:
A legal provision in Creative Commons licenses that automatically terminates the license when the license is violated.

Copyleft:
A license clause that allows a modified version of an Open Content work to be shared and published only under the same license as the original. See also ShareAlike.

Copyright:
The exclusive right of an author to control the distribution, use and modification of their work.

Copyright waiver:
The voluntary relinquishment of the copyright by its owner by means of a declaration such as CC0.

Creative Commons:
A nonprofit organization that offers a range of public licenses allowing flexible copyright management for works.

Data protection:
The legal and technical measures designed to safeguard personal information from unauthorized access, use, disclosure or loss, thereby ensuring privacy and compliance with regulations.

Derivative work:
A new work based on or derived from one or more existing works.

Digital Rights Management (DRM):
Technical protection measures that prevent digital content from being used or copied without permission.

Exclusive rights:
Rights reserved exclusively for the author of a work, such as the right to reproduce, distribute, and modify it.

Fair use:
An exception in US copyright law that allows the use of protected works under certain conditions without permission from the rights holder.

GNU General Public License (GPL):
A widely used open-source license that allows software to be freely used, modified and distributed.

License agreement:
A legally binding agreement between a rights holder and a user that sets out the conditions for using a work.

License chain:
The sequence of licenses required when rights to a work are transferred multiple times.

License grant:
The formal permission given to a user to exercise certain rights over a copyrighted work.

Licensing:
The process by which an author grants another party permission to use their work, often under specific conditions.

Limitations and exceptions (to copyright):
Statutory rules that allow the use of a copyright-protected work without permission by the rights holder.

Modification:
Any alteration or change to an existing work, such as translations, adaptations or rearrangements.

Moral rights:
Moral rights protect the personal bond between an author and their work, such as the right to first publication, the attribution right and the right to protection against distortions of the work.

Non-assertion pledge
A promise made by a licensor not to enforce certain rights, even if they technically retain them.

NoDerivatives (ND):
An element of the Creative Commons license that only allows the distribution of unaltered versions of the work.

NonCommercial (NC):
An element of the Creative Commons license that excludes commercial uses of the work.

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Open access:
The practice of providing unrestricted access to scholarly research and data online and of granting broad licenses to reuse them.

Open Content:
Content released under licenses that allow free use, distribution and modification by others.

Open license:
A license that allows users to freely copy, modify and distribute a work, often under specific conditions.

Open source software:
Software whose source code is openly accessible and can be used, modified and shared by anyone according to an open-source license.

Patent right:
An intellectual property right that grants the inventor exclusive control over the use, production and sale of their invention for a limited time, preventing others from using it without permission.

Personal rights:
The legal protections and freedoms granted to individuals, safeguarding their privacy, dignity and autonomy from unwarranted interference or harm.

Ported licenses:
Licenses adapted to the legal system of a specific country to better reflect local legal conditions.

Public domain:
Works that are no longer protected by copyright and can be used without restrictions by anyone.

Public license:
A legal tool that offers anybody a broad license to use a copyright-protected work under certain conditions without concluding an individual contract.

Related rights:
Rights similar to copyright, including the rights of performers and broadcasters in sound recordings and databases.

Reuse:
The use by a third party of a previously created work.

Remix:
A new work created by combining and modifying existing works, often in music, video or art.

ShareAlike (SA):
A license clause that allows a modified version of an open-content work to be shared and published only under the same license as the original.

Sui generis database rights:
An intellectual property right related to copyright granted in the EU to protect investments in databases. It grants the maker of a database a limited exclusive right to defend against the extraction of substantial portions of the database.

Technical protection measures (TPM):
Measures that restrict access to or the reproduction of a work by technical means.

Term of protection:
The period of time during which copyright protection exists. When copyright on a work expires, the work enters the public domain.

TDM (Text and data mining):
The process of automatically analyzing large datasets to extract new information, often covered by copyright exceptions.

Trademark rights:
The rights associated with a symbol, word or phrase legally reserved exclusively for use by a single entity.

Unported license:
A Creative Commons license not adapted to a specific jurisdiction, intended for global use.

Warranties:
Guarantees or assurances that are often excluded in public license agreements.

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