



Are Digital Cultural Commons Culturally Diverse?

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Cultural commons constitute a complex and varied field of research, as the concepts of commons and culture are both polysemic. Therefore, the qualification of ‘cultural commons’ remains perilous. What are cultural commons, and how can they be given legal resonance? After an overview of the different meanings, we propose to define them as follows: the individual or collective cultural productions, expressions, and practices marked by a form of inclusion and following participatory governance.

However, this contribution is limited to the cultural commons in the digital universe (1), which requires specific analyses regarding their intangible nature, as well as their regime. Digital cultural commons play on the tension between access and control of digital cultural content more than tangible cultural commons, without necessarily excluding intellectual property rights over such content, on the contrary (2). In these movements, mainly at the European level, regarding the appropriation or access to cultural data, the issue of cultural diversity seems to be forgotten or at least poorly expressed. However, cultural diversity, understood as “the manifold ways in which the cultures of groups and societies find expression,”¹ gives an objective to pursue, particularly in the development of digital cultural commons. But this diversity can be threatened, among other things, by “digital colonization,” [1 : 336] according to which algorithms and platforms foster a certain cultural and economic hegemony. Platforms contribute to the critical analysis of digital cultural commons, in that they allow for the implementation of participatory governance specific to the commons (3).

¹Article 4 of the UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions of 2005.

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1 The Complex Qualification of Digital Cultural Commons

The question of the qualification of digital cultural commons first requires examining the multiple digitized or digital cultural contents (1.1). Before including certain digital cultural contents in the realm of the commons, it is important to note the polysemy of the notion of the commons, as well as the various meanings of intangible commons (1.2) and cultural commons (1.3), underscoring the difficulty of integrating these concepts into law.

1.1 Digital and Digitized Cultural Contents

Cultural contents can take various forms, such as written (books), audio (music), or visual (still or animated images). Cultural contents enter the digital realm either because they are digitized or because they are born digital. Digitized cultural contents are those resulting from a digitization process whereby a copy of the digital data of a physical object is obtained, in 2D or 3D, converting assets from an analogue format to a digital one². The digitization of cultural objects in museum collections, for example, through the Joconde database for French museums, illustrates these digitized contents [1 : 328]. Furthermore, born-digital cultural contents refer to “assets created in a digital form, such as digital art or animation, virtual museums, without an analogue equivalent,”³ or cultural content created in virtual reality, such as computer-generated video games, software, or coding.

Some cultural heritages can also be born digital, such as digital cultural archives [2]. In this regard, the 2003 Charter on the Preservation of Digital Heritage defines digital heritage as follows:

« The digital heritage consists of unique resources of human knowledge and expression. It embraces cultural, educational, scientific and administrative resources, as well as technical, legal, medical and other kinds of information created digitally, or converted into digital form from existing analogue resources. Where resources are “born digital”, there is no other format but the digital object. » (article 1).

Moreover, the UNESCO Recommendation concerning the Preservation and Accessibility of Documentary Heritage, including Digital Heritage of 2015, aims to harmonize strategies and policies for safeguarding documentary heritage to ensure better accessibility, particularly through digital means [3]. Articles 4.6 to 4.8 of the Recommendation encourage the adoption of legal measures to facilitate access to documentary heritage, aligning with the spirit of the commons without explicitly mentioning it:

² Commission Recommendation (EU) 2021/1970 of 10 November 2021 on a common European data space for cultural heritage, C/2021/7953, article 3.5.

³ Commission Recommendation (EU) 2021/1970 of 10 November 2021 on a common European data space for cultural heritage, C/2021/7953, article 3.3.

« 4.6 Member States are encouraged to periodically review copyright codes and legal deposit regimes to ensure they are fully effective, with limitations and exceptions, for preserving and accessing documentary heritage in all its forms. Effectiveness would also profit from the strengthening and harmonization of legislation and alignment of policies among Member States.

4.7 Where preserving and accessing documentary heritage requires the use of software or other proprietary technology not covered by copyright exceptions, Member States are invited to facilitate access to proprietary codes, keys and unlocked versions of technology on a non-profit basis.

4.8 In order to facilitate optimal exchange of data, Member States should encourage the development and use of internationally recognized open source software and standardized interfaces for managing digital documentary heritage, and seek the cooperation of software and hardware developers in extracting data and content from proprietary technologies. Likewise, their memory institutions should aim for international standardization and interchangeability of cataloguing methods and standards. ».

The European Commission has also adopted two recommendations on the digitization of cultural heritage. The first recommendation, dating back to October 27, 2011, focuses on the digitization and online accessibility of cultural material, digital preservation, and gave a strong impetus to the Europeana platform⁴. The second recommendation, adopted on November 10, 2021, which replaces the first, relates to a common European space for cultural heritage data, going further in the objective of access and reuse of data⁵. However, neither of these two recommendations mention the commons or cultural diversity.

In addition to digitized or digitally created human-origin cultural content, digital cultural content can be of non-human origin, questioning the creative capacity of artificial intelligence. One of the most striking examples of machine-generated cultural content is the “Portrait of Edmond Bellamy” created by a French artist collective “Obvious” using an algorithm, the algebraic formula of which is found at the bottom right of the painting [4]. This portrait of a fictitious bourgeois was produced based on a generative adversarial network (GAN), in which software assimilates and analyzes more than 15,000 painted portraits from the Middle Ages to the 20th century, while a second software optimizes the rendering of images to such an extent that it becomes difficult to differentiate them from images created by humans. This machine learning process demonstrates that artificial intelligence can be creative. It can also become profitable because the painting was sold by Christie’s in 2018 for \$432,500, 45 times the estimated price.

⁴ Commission Recommendation of 27 October 2011 on the digitisation and online accessibility of cultural material and digital preservation, OJ L 283, 29.10.2011.

⁵ Commission Recommendation (EU) 2021/1970 of 10 November 2021 on a common European data space for cultural heritage, C/2021/7953.

However, the question of the authorship of the work should be raised. Would it be possible to recognize the non-human algorithm as an author within the scope of intellectual property rights? Faced with the difficulty of applying property regimes to non-human entities, doctrine and jurisprudence distinguish between cultural content *assisted* by artificial intelligence and the content *generated* by artificial intelligence [5 : 104–116]. Only generated content is excluded from copyright, to the extent that it is free from any personal imprint or creative choice. Content assisted by artificial intelligence, on the other hand, may be subject to copyright. The distinction between cultural content created by humans and that created by algorithms becomes more complicated, even questioning the notion of creative work itself and devaluing the work of artists. In this regard, Alain Strowel wonders whether there should be a “right of the public to be informed about the artificial or human origin of an artistic creation,” or even a mandatory disclosure to avoid confusion, particularly in the art market [5 : 110].

The question of the commons among all of this cultural content (digitized, digitally created by humans or by machines) deserves a brief look at the polysemy of the notion of the commons itself, as well as the variety of the commons in the intangible world, of which the digital is a part.

1.2 The Variety of Intangible Commons

The concept of the commons is not defined in current positive law, neither in Belgium [6] nor in France, despite attempts at integration [7].

The lack of definition partly stems from the difficulty of grasping the notion, which is highly pluralistic, encompassing various terms such as common goods [8], commons [9–11], common things, common heritages, or the common [12], and even commoning [13]. Commons relate to both tangible things (natural resources, cultural resources, etc.) and intangible things (knowledge, culture, etc.), varying over time and space as well as across disciplinary fields.

This plethora of meanings has given rise to a plurality of approaches and theories regarding what constitutes the commons, based sometimes on naturalistic arguments, sometimes on functional arguments, or even on institutional or political elements [7]. Despite this diversity, we have been able to write, with Delphine Misonne and François Ost, that a clear line emerges, uniting theories around:

“the interweaving of three constants:

- Firstly, a concern for access and, by extension, sharing of use;
- Secondly, the existence of a community, which we will qualify as instituting;
- Finally, the claim of a project - often in the sense of doing better - and the possibility of its realization.” [14 : 60–61].

Among commons, a large part belongs to the world of intangible assets. In the absence of a general definition, several categories of intangible commons can be distinguished, which partially overlap depending on the meaning given to them by the authors. Thus, in the realm of intangible commons, one finds, like a funnel:

- digital commons, understood as “all elements available to the public in digital form, whether they are not subject to any monopoly ab initio or are voluntarily shared“ [15], grouping data, information, and works of the mind (works in the public domain, works subject to open or free access licenses);
- informational commons, understood as “intangible resources consisting of collections of information and knowledge, as well as products elaborated from this informational material, such as ‘free’ software“ [15];
- knowledge commons, referring to a “vast set of cooperative social practices“ [16] such as “online scientific journals, wikis specialized in particular topics: plants, medicines, family trees...”; [15].
- cultural commons, which bring together intangible commons of a cultural nature, namely the public domain of works of the mind as well as new forms of commons, particularly in relation to digitization, requiring special consideration, as argued by Madison, Frischmann & Strandburg [17].

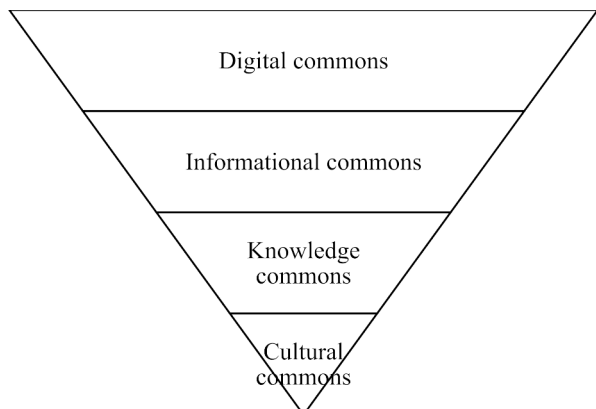
However, the enumerated categories are porous, and the inclusion of an element in one of these categories does not deny its potential belonging in another.

Regarding informational commons, Benjamin Coriat distinguishes three constitutive traits, which could, in our estimation, apply to all intangible commons, in any case to commons of knowledge and cultural commons according to the logic of the funnel [15].

Firstly, informational commons are non-rivalrous goods and generally non-exclusive, in that the consumption of the good by one individual does not deprive others. The tragedy of the commons denounced by Hardin [18] does not apply in this case, since exclusion is not *a priori* characteristic of these goods.

Secondly, informational commons may nevertheless be subject to appropriations, also called ‘enclosures’ in reference to the 16th century English movement of land privatization [19]. In the case of informational commons, intellectual property rights constitute the “second enclosure“ [20] threatening the non-exclusive character and access to these goods. However, informational commons operate a new distribution of rights through innovative tools, such as open licenses like Creative Commons

Fig. 1 Intangible commons



[21], authorizing access, copying, duplication, and/or dissemination, depending on the chosen formulas. In doing so, new tools assert non-exclusive but inclusive property rights, creating a variety of commons.

Thirdly, governance no longer aims to conserve, as with tangible commons, but is aimed at adding to, developing, and “enriching the common with new information and knowledge” [15]. Thus, governance aims to “connect common users and those responsible for common administration.” [15]. In other words, the initial knowledge base is put online and enriched by users. This enrichment is managed by administrators who “validate” user additions. In addition, informational commons are an “original mode of protection for information and knowledge,” given that the community of innovation participants knows no limit, at least territorially, although there may be more restricted user communities, depending on the rights set for “additionality.” [15]. This mode of knowledge production is very different from the traditional research production model that belongs to the enterprise. It is based on shared access to informational resources, revolutionizing the production and circulation of information and knowledge while guaranteeing inventors’ rights through Creative Commons-type open licenses (see *infra*).

Regarding the commons of knowledge, Charlotte Hess and Elinor Ostrom employ the notion of knowledge in a broad sense, including cultural commons as well: “Knowledge as employed in this book refers to all types of understanding gained through experience or study, whether indigenous, scientific, scholarly, or otherwise nonacademic. It also includes creative works, such as music and the visual and theatrical arts.” [22]. The commons of knowledge illustrate the tension between society’s interest in knowledge in the broad sense and the personal interest of the creator of knowledge (author, inventor, etc.). Indeed, “knowledge, information, and culture are at once the products of specific human activities and resources for further creative and productive activities” [16]. The need to democratize knowledge, but also to protect the economic interests of the creator, justifies the development of intellectual property rights, which are however limited in time, unlike classic property rights. The public domain in the field of literary and artistic property, i.e., all intellectual works that are no longer protected by intellectual property [23], would thus be the “first commons of knowledge,” from which anyone can draw to circulate, reproduce or represent works, and create derivative works without permission [16].

The different intangible commons participate in the collective construction of knowledge by informal collectives that “fully take advantage of digital infrastructure.” [16]. These creative collectives are often “amateurs” in artistic terms, but dynamic centers of impulsion that emerge from the shadows [24]. The free software movement, led by Richard Stallman, thus finds itself at the cradle of intangible commons as early as 1985 [25]. In 2000, Lawrence Lessig and others created the Creative Commons (CC) licenses, which seek to « promote collaboration between creators and users around the globe (...) build a pool of creative, educational, and scientific content that can be freely and legally accessed, used, and remixed », with the most well-known example being Wikipedia. This is followed by the emergence of open images and videos, as well as musical remixes or video mashups. These new contents enrich the creation of derivative works through open Creative Commons licenses that are shared on platforms like YouTube, Flickr, or Soundcloud. Finally, the creation of

objects can also result from shared design, such as the appearance of FabLabs, a collective design work, or 3D printers that create links between design and realization.

These new modes of production of information, knowledge (and culture), particularly through digitization, encourage the development of new forms of sharing and access, while also requiring a new, complex balance, as commodification is also expanding with the emergence of new technologies. Indeed, the expansion of digital content carries a risk of enclosure through an extension of intellectual property rights or the establishment of digital rights management, which we will discuss further in the next section.

Yet, like Maud Péliissier points out, inclusion is not enough to qualify intangible commons, since inclusion can easily occur: access can be free through the granting of free licenses, without a true change of ownership [24]. A sharing and participative governance is also required for a digital cultural content to be a commons. We will come back to this when analyzing platforms for the production and distribution of cultural content.

Among the intangible commons are cultural intangible commons, of which digital cultural commons are a part. Therefore, the concept of cultural commons deserves attention before specifying digital cultural commons.

1.3 Digital Cultural Commons

Just like the commons, cultural commons are not defined in Belgian or French law. They could bring together commons with a cultural character, knowing that the notion of culture is also difficult to define. Detecting four meanings of culture, Celine Romainville defines it as “an activity of meaning or sense and construction of identity”.[26: 81–82] Bertacchini understands culture collectively as “humanly constructed shared resources that arise from the collective and interactive activity of members of groups and communities” [27].

For Bertacchini, cultural commons therefore concern artistic and cultural expressions: “cultures expressed and shared by a community” [28]. The author emphasizes collective practices and includes one or more cultures themselves in the realm of commons: “Analyzing cultures as a commons allows a better and general understanding of the dynamics and of the main factors affecting the production, sharing and evolution of cultural expressions” [27]. This integration of cultures in commons makes it possible to “analyze under a unified framework both tradition and more up-to-date cultural phenomena” [27].

For other authors, however, cultural commons are only in the realm of the intangible and encompass all informational commons: “‘constructed cultural commons’ as we use it, refers to environments for developing and distributing cultural and scientific knowledge through institutions that support pooling and sharing that knowledge in a managed way, much as a natural resource commons refers to the type of managed sharing environment for natural resources that the Maine lobster fishery represents.” [17].

Still, others understand cultural commons as “all the artistic or ‘creative’ productions of a society,” taking intangible and tangible commons [29]. Thus, for Le Crosnier, “ubiquity” characterizes all these cultural commons, encompassing both

tangible and intangible resources, such as museums, libraries, collections of artworks, etc [16].

In the wake of these latter authors, we also understand cultural commons in their multifaceted nature, taking both tangible and intangible resources. Distinctions are nonetheless interesting to observe based on their (im)materiality. Thus, on the one hand, tangible commons include rival resources in the process of depletion and are subject to participatory governance for conservation [9]. Public museum collections or protected historical monuments are examples of tangible commons in the cultural field [30]. On the other hand, intangible commons, understood as non-rival resources in the process of privatization (the second enclosure analyzed by James Boyle), require participatory governance for enrichment. A Mozart symphony in the public domain remixed by a contemporary composer or a digitized book whose content is modified by users illustrate intangible commons in the cultural field.

The collective dimension of intangible cultural commons can be found, among other things, in the intangible cultural heritage, “the main source of our cultural diversity” [5 : 187] Indeed, the UNESCO Convention for the Safeguarding of Intangible Cultural Heritage of 17 October 2003 defines intangible heritage as follows :

« 1. The “intangible cultural heritage” means the practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognize as part of their cultural heritage. This intangible cultural heritage, transmitted from generation to generation, is constantly recreated by communities and groups in response to their environment, their interaction with nature and their history, and provides them with a sense of identity and continuity, thus promoting respect for cultural diversity and human creativity. For the purposes of this Convention, consideration will be given solely to such intangible cultural heritage as is compatible with existing international human rights instruments, as well as with the requirements of mutual respect among communities, groups and individuals, and of sustainable development.
2. The “intangible cultural heritage”, as defined in paragraph 1 above, is manifested inter alia in the following domains:

- a. oral traditions and expressions, including language as a vehicle of the intangible cultural heritage;
- b. performing arts;
- c. social practices, rituals and festive events;
- d. knowledge and practices concerning nature and the universe;
- e. traditional craftsmanship. ».

Immaterial but not necessarily digital, the contents, practices, and cultural expressions recognized as heritage by communities emphasize the importance of a collective approach to heritage, discreetly bringing it closer to the field of the commons. The safeguarding regime for intangible heritage “proposes [...] forms of public appropriation, which go through the State”, and “would deserve to be complemented by forms of collective ownership in the hands and for the benefit of communities”,

but this requires a “complex system of governance“ [5 : 188] to be put in place. In other words, the governance of intangible cultural heritage is mainly in the hands of the State, following a model of public governance and not commons governance, even though there is minimal participation from communities. The Convention, in fact, resulted from a compromise that enshrines the principle of community participation while leaving responsibility for defining national safeguarding policy to the States [32–34], not yet (still) incorporating the logic of the commons into international legal texts on this subject.

However, the field of intangible cultural heritage is interesting in the search for digital cultural commons, insofar as it reveals the shortcomings of modern (mainly Western) law in thinking about the relationships between these collective cultural productions and regimes of appropriation [35 : 97–121]. Indeed, intellectual property rights are inadequate for the needs of safeguarding intangible cultural heritage, both in terms of the nature of intangible goods, ownership of rights, and duration of protection [36]. The call for a more appropriate protection regime for intangible cultural heritage refers to reflections on the commons.

Summing up the various meanings of the notion of cultural commons and the related notion of intangible cultural heritage, we propose to define cultural commons as follows: individual or collective cultural productions, expressions, and practices marked by a form of inclusion and following participatory governance. Applied to the digital universe, digital cultural commons would relate to individual or collective digital or digitized cultural productions, expressions, and practices marked by a form of inclusion and following participatory governance. For instance, a digitized painting, accessible for free on an online site, would be a digital cultural common if users are able, for example, to modify the context telling the story of the painting in order to participate in a collective construction of knowledge. Likewise, an immersive work of art created by a collective of artists (or assisted by artificial intelligence) would be a digital cultural common if it provides access to a community, which could, according to specific governance rules, modify the work and bring it to life through plural artistic contributions. The recent *r/Place* experiment set up on the Reddit platform illustrates these movements of collective cultural creation, within which online user communities collaborate to create collective works of art or compete to create the best, as in this “pixel war” between users from several countries [37]. Cultural commons is not always all roses.

2 Access to and Control of Digital Cultural Commons

New actors (such as “cultural amateurs“ [24]) and the new technological possibilities brought about by the digitization of cultural content greatly expand the possibilities for access. The tension between the right *to* access, controlled by intellectual property rights, and the right *of* access, based on the belonging of these contents to intangible cultural commons, becomes even more palpable.

When comparing the two logics side by side, that of cultural commons on one hand, and that of copyright on the other hand, certain characteristics highlight their distinction.

Firstly, it is interesting to note that cultural commons pursue a common interest shared by a community, whereas copyright is established in the name of the individual interest of the author. The notion of common interest is poorly defined in law, but broadly refers to “either the common use of a resource; or an imperative of conservation [...], or a willingness to organize oneself to participate in the governance of a thing, all for the benefit of a broad community (national, regional or global; present, future, transgenerational) or a more restricted one (of patients, residents, interested and organized persons, etc.)”, knowing that this common interest, specific to a collective or a community, is distinct from the general interest and the sum of individual interests [7].

Cultural commons are also marked by a concern for inclusivity through bundles of rights and interests [23, 38], while copyright aims to exclude other interests on a protected work of the mind. Inclusivity is measured by the degree of “inclusion of others in the uses of a thing [...] without the possibility of excluding any of them”, thus referring to a “range of positions, degrees, in a continuum ranging from exclusivity to inclusivity”: the more limited the power of exclusion, the higher the degree of inclusivity and consequently the “commonality” of the thing increases [7 : 78]. For digital cultural commons, the degree of inclusion is high, as the intangible nature facilitates the integration of different rights and interests.

Thirdly, the issue of cultural commons is to promote a society of access and sharing, through participatory governance, while copyright primarily pursues an economic objective, in order to protect the remuneration of authors and stimulate their creation in this sense [39] (including the investment of cultural industries) [14 : 181].

Fourthly, cultural commons embody the principle of cultural diversity, whereas copyright is aimed at cultural neutrality. Copyright protects creations indifferently, which in reality favors cultural industries that can thus “standardize cultural contents and reduce the vitality of traditional popular cultures” [5 : 185–186].

Finally, the emergence of digital technology accentuates this tension between the logic of access to the commons and the logic of control by copyright. Digital technology can generate new intangible cultural commons (above, Sect. 1.4), just as it can generate new forms of ownership, which we will come back to. Indeed, as noted by Alain Strowel, “old properties associated with freedom are no longer sufficient today: new properties, but also new commons, are now indispensable in the field of intangibles”. [5 : 209].

The comparison, necessarily subject to some approximation, has the merit of highlighting the underlying logics between these two regimes for digital cultural contents, either as commons or as works of the mind protected by copyright. However, the opposition remains relative [40]. Digital cultural commons can be subject to intellectual property rights. Moreover, intellectual property rights can ensure a form of commons, thereby forming a paradoxical alliance (2.1). Furthermore, the movement of appropriation in the digital world is shifting towards a movement of access to digital data, as illustrated by recent European legislation in this regard (2.2). But this movement is counterbalanced by the emergence of new forms of appropriation, even monetization, notably with Non-Fungible Tokens (NFTs) for digital cultural content (2.3).

2.1 The Paradox of Access to Digital Cultural Commons

The question of access is crucial when it comes to the commons, whether they are tangible or intangible. For intangible commons, access may seem more straightforward, as they are non-rivalrous and non-excludable goods, but the degree of access can still vary. Bertacchini and Morando distinguish four models of access and usage of digital cultural content [41]. At the lowest degree, access is limited to online access and the display of images of artworks on a website, or even virtual visits to museums or exhibitions. However, this access does not provide real openness in terms of control over usage or reproduction, as online cultural content is often low-resolution images or marked with watermarks. At a stronger degree, access means that licenses are granted for images of artworks (proprietary image licensing), which cultural content distributors grant, thereby controlling access. It should be noted in this regard that since the European Directive on the Digital Single Market of April 17, 2019, cultural institutions can no longer claim copyright on images of artworks that have fallen into the public domain (Article 14). A third model of access is that of open access licenses, which allow access to content but do not authorize modification. The authors place Creative Commons licenses in this model, but in our view, they constitute a distinct degree of access. Open access does not allow for content modification, while Creative Commons licenses (CC) do (not necessarily, however, as there is also gradation within CC licenses). Furthermore, CC licenses promote non-commercial use, which is not necessarily the case with open access licenses. The last model encompasses the ultimate degree of access, which is the recognition of user-generated content. Both the content, the type of license, and the platforms are free for users to copy, distribute, and modify digital cultural content, as with a free work or a work in the public domain.

These different models nuance the question of access in the reflection on the commons: not all access to digital cultural content means that the content is part of the commons. At the same time, the fact that cultural content is subject to intellectual property rights does not necessarily prevent the emergence of commons.

In fact, quite paradoxically, intellectual property rights are, according to Alain Strowel, “the matrix for the emergence of commons” [31 - 42]. Intellectual property rights can guarantee, through licenses mainly, the free use of the protected work. This alliance between intellectual property and the commons takes the form of a triangular relationship in which intellectual property is subverted by contractual devices (such as free licenses, open access licenses, etc.) and by techno-practical devices (such as codes, programs, platforms, etc.) in order to pave the way for a regime of de-propriation. The regime of de-propriation was outlined in a paper with François Ost and Delphine Misonne [64] and subsequently developed by Alain Strowel [43]. De-propriation would, for us, be one of the alternative models, alongside transpropriation, to the dominant model of appropriation, as it radically departs from it by opting for inclusion through contracts recognizing access to digital resources and sharing of rights. The involvement of community members around these de-propriated commons is also one of the original features of this model. As Alain Strowel advocates, digital commons arise from the junction of:

- Free licenses (such as copyleft for software, which would require the redistribution of the software code under the same conditions as the original license);
- The proprietary effect of copyright, as only the owner has the power to prohibit reappropriation in the licenses granted and thus perpetuate the commons;
- And finally, the management and dissemination of these licenses by foundations, such as the Wikimedia Foundation, which establishes a governance of sharing to make sure the spirit of the commons is followed [42].

Similarly, Mélanie Clément-Fontaine argues that there is no true legal framework for digital commons, as these commons concern non-protectable ideas, works in the public domain, or raw information that are defined “in relation” to other notions of intellectual property [65 : 280]. According to her, mechanisms can be found in private law of obligations, by contractually releasing access, or in property law by developing collective ownership or a form of de-appropriation as described above.

In support of this argument for a paradoxical alliance between the commons and copyright, Lawrence Lessig distinguishes between a “free culture” and a “permission culture”: free culture does not mean it is devoid of all property, copyrights may still exist for works, but it cannot be a “culture in which creators get to create only with the permission of the powerful, or of creators from the past.” [21]. The essence of a free culture, from which the commons emerge, is to promote freedom of creation, which should not suffer any constraints, such as the obligation to seek permission from other creators who hold exclusive rights. In this context, computer scientist Philippe Aigrain proposes several principles for a new social pact to make non-commercial cultural commons accessible to all:

1. « The non-market sharing of digitally published works between individuals is a legitimate right for all.
2. All those who have access to this particular form of cultural commons have a duty to contribute adequately to its existence through a flat-rate Creative Contribution.
3. The amount and distribution of this contribution must respect principles related to the revenues of individual creators, the financing of the production of new works, the equitable distribution in relation to activities conducted over the Internet, and the impact on the welfare of all. » [44].

He further develops a reflection on file sharing as “the act of making a file available to other individuals by putting it online, by sending a copy, or by rendering it accessible through file sharing software” and believes that document sharing is essential to creativity, in the general interest of society, while having a positive impact on cultural diversity [44].

However, the mobilization of copyright in combination with contractual and technical-practical devices is not sufficient for the establishment of the commons in a sustainable manner, as it largely depends on the willingness of the intellectual property rights holder. Intervention by lawmakers would help complement and consolidate this practice. In this regard, a new balance is emerging in the digital field, primarily at the European legislative level, shifting the movement from data appropriation to access.

2.2 Towards a New Data Access Paradigm

The European Union's law has long followed a logic of data privatization or appropriation, particularly through copyright laws. Even in the new Digital Single Market Directive of April 17, 2019, appropriation is strong, despite the new exceptions for text and data mining, as well as the recognition of non-commercial works. This logic of appropriation is further supported by the protection of databases through *sui generis* intellectual property rights, and the issue of personal data portability [45].

However, recently, the European Union has been moving towards a paradigm of data access rather than data privatization. For example, the Open Data Directive and the Data Governance Act, which excludes private entities, cement free access to public data (research data, dynamic data, and data reuse).

As for private sector data, several legislations have been adopted or are being adopted that relate to:

- digital services (liability of intermediaries in the single market, including platforms and other digital service providers), through the Digital Services Act (DSA) of 2022⁶;
- digital markets (ensuring that platforms behave fairly online), through the Digital Markets Act (DMA) of 2022⁷;
- database access: proposal to revise the directive on databases to promote access to these databases, proposed Data Act (2022)⁸.

This wave of legislative measures, whether directly applicable or to be transposed by member states, heralds a new era of access, and possibly an opening towards the commons. But open access does not necessarily mean entering the field of the commons; it is necessary for the governance of the commons to be put in place as well (*infra*).

2.3 The Swing Back: Monetizing Digital Cultural Content with NFTs

In the context of data appropriation, the issue of monetization [43 : 85] is swinging back from the access movement. The recent emergence of Non-Fungible Tokens (NFTs) on digital cultural content is shaking not only the art market but also the logic of the commons.

The NFT allows the ownership history to be traced through the technique of blockchain. The blockchain is a form of digital ledger that certifies ownership transfers without the need for a central control body and has notably enabled the development

⁶ Regulation (EU) 2022/2065 of the European Parliament and of the Council of 19 October 2022 on a Single Market For Digital Services and amending Directive 2000/31/EC (Digital Services Act), PE/30/2022/REV/1, OJ L 277, 27.10.2022.

⁷ Regulation (EU) 2022/1925 of the European Parliament and of the Council of 14 September 2022 on contestable and fair markets in the digital sector and amending Directives (EU) 2019/1937 and (EU) 2020/1828 (Digital Markets Act), PE/17/2022/REV/1, OJ L 265, 12.10.2022.

⁸ Proposal for a Regulation of the European Parliament and of the Council on harmonised rules on fair access to and use of data (Data Act), COM/2022/68 final.

of cryptocurrencies [46]. This technique has since been extended to several uses, including that of NFTs.

NFTs are non-fungible cryptographic tokens and are therefore not interchangeable, unlike cryptocurrencies. They give monetary value to digital documents proving ownership of an object. In other words, the buyer of an NFT does not hold ownership of a real (painting, document, statue, etc.) or digital (digital art, audio or video document, video game, etc.) object but of the digital file that proves ownership of a digital image of a real or digital object. Only this digital file, proof of ownership of a digital image, is subject to market exchange [47]. NFTs create scarcity where it did not exist: digital images, unlike physical works, can be duplicated infinitely, and by holding a non-interchangeable token, this digital image becomes a commodity with economic value [48].

However, creating an NFT - a process called “minting” - does not guarantee that the creator is authentic, meaning that someone other than the artist who created the real or digital object could create an NFT and put it on the market. Platforms do not have the capacity to verify the first essential phase of authenticity, leaving some artists behind as others put proof of their work on the market and monetize it, without owning the object or any physical or intellectual property [49].

NFTs do not have an impact on copyright. Selling an NFT does not mean transferring one’s copyright. The artist still owns the copyright, which can be transferred through a separate contract from the smart contract selling the NFT. This is what sets NFTs apart from the *droit de suite*, which benefits the author of an original work of art but is more limited in material, territorial, and temporal scope than NFTs.

Unlike copyright, NFTs do not have to cover an intellectual work. NFTs can cover works generated by artificial intelligence without human input or works that have fallen into the public domain. For example, the Hermitage Museum in St. Petersburg auctioned off digital copies of five historical masterpieces (including one by Vincent Van Gogh and one by Leonardo da Vinci) for \$440,500 [50]. Each work was “minted” twice, with one NFT being sold while the other was kept by the museum to avoid the risk of digital disaffection of the collections. This movement is gaining momentum in museums in other countries, including France, with the legal risks pointed out by G rardine Goffaux-Callebaut [51].

Furthermore, research is being conducted into the artistic rather than commercial potential of NFTs. According to some, NFTs in themselves are art, disruptive and born-digital [52]. They could be a new medium, much like photography and cinema were in their time. The Hermitage Museum’s exhibition “The Ethereal Aether” explores this potential [53]. The exhibition remains in the immaterial realm, it does not materialize these works or put the museum’s digital archives up for sale, but seeks to create new digital works. In addition, visitors can create avatars in the metaverse. For others, however, the NFT is just a document, non-interchangeable to be sure, but distinct from the digital image.

Finally, NFTs are starting to be used in the practice of restitution of digital copies of works of art and cultural goods [54], notably by the Looty association [55].

The potential of NFTs for digital cultural content is thus expanding, even if the main issue is the opposite of that of the commons: the ownership of a digital image can now be monetized through NFTs, becoming an exclusive asset.

3 Cultural Diversity in the Platform Age

The question of access, central to the commons, assumes places of access and sharing. In the case of digital cultural commons, platforms are the main vector of access [56]. Platforms are supposed to ensure the diversity of cultural content, as they control access to it [57].

However, marginal cultural works and creations are threatened due to the tendency towards homogeneity. This is what Rosen called the “Superstar phenomenon” in 1981, “wherein relatively small numbers of people earn enormous amounts of money and dominate the activities in which they engage.” [58]. As a result, demand and supply shift, and it becomes more financially advantageous to operate in a globalized market. “Motion pictures, radio, television, phono reproduction equipment, and other changes in communications have decreased the real price of entertainment services, but have also increased the scope of each performer’s audience,” as well as the trend towards increasing income at the top [58 : 857]. Already in 1981, Rosen predicted that future changes would further move in this direction with “cable, video cassettes, and home computers.” [58].

Furthermore, content filtering also undermines cultural diversity. Ranking algorithms, which are mainly based on the most popular searches, are not necessarily neutral. Regulating platforms remains complex, notably due to the need for proportionality between freedom of expression and information and intellectual property rights.

The recent legislative acts of the European Commission on digital services and markets aim, however, according to the Commission itself, at a fair, open, safe, and responsible online environment. However, cultural diversity is only mentioned once in a footnote of the proposal for the Digital Market Act, regarding the societal and economic impacts of platforms: “The Council highlighted the importance of ensuring fair competition conditions that support core values such as cultural diversity and media pluralism in its conclusions on strengthening European content in the digital economy and preserving a free and pluralistic media system.”⁹

With the aim of better regulating platforms for cultural content, the operational guidelines for the implementation of the Convention on the Diversity of Cultural Expressions (2005) in the digital environment of 2017 [59] issue a series of interesting recommendations [60]. They advocate for a cross-cutting approach to cultural diversity in the digital environment, confirm the hybridity of cultural goods and services, as well as the principles of technological neutrality and Internet neutrality. The creation, production, and distribution of cultural content are encouraged in the digital environment. Free and permanent access to diverse cultural expressions and participation in culture are also emphasized.

Are platforms on which digital cultural content is found themselves commons? The qualification of platforms as commons depends on the economic model pursued by the platform, either a more capitalist model (platform companies, in a so-called sharing economy) or a more collaborative model [42]. In the second hypothesis, the

⁹ Proposal for a Regulation of the European Parliament and Council on contestable and fair markets in the digital sector (Digital Markets Act), COM/2020/842 final.

governance put in place by a platform is part of the collaborative economy, following the model of a cooperative society. Cooperative platforms assume that ownership of intangible assets is shared and distributed through a set of rights among participants, who collectively define the rules of governance for the use, modification, and distribution of content [42].

In the field of cultural content, several large platforms operate under a capitalist model, such as Google Arts & Culture, Spotify, or Netflix, while others are more aligned with participatory governance, such as Europeana, Wikipedia, or the Creative Commons Global Network.

Less well-known than Wikipedia, the Europeana platform focuses on digitized cultural heritage and has emphasized the creation and maintenance of “European cultural commons” since 2011.[7 : 521–524] Europeana, as Lily Martinet aptly puts it, is a “platform realizing the right to access European cultural heritage.” [61]. This digital library was created in 2004 in response to Google Books’ massive digitization of works in exchange for exclusive commercial exploitation rights. The platform aims to bring together works from the cultural heritage that are in the public domain and have been digitized by member states, and provide free access to them through Creative Commons licenses: for texts, the license is CC BY-SA, which allows texts to be reproduced, distributed, and modified, as long as proper attribution to the author is respected; for metadata, it is the Creative Commons Zero (CC0 1.0) license, which allows for completely unrestricted reuse [62]. Europeana has also established participatory governance rules to involve citizens in the construction of this digital heritage. On the one hand, citizens can participate in collection days organized by museums, archives, or libraries, during which personal objects of citizens (such as photographs, documents, or other family archives) can be digitized or testimonials collected. On the other hand, online contribution opportunities are offered, where citizens can share a digitized object and tell its story, although the content of these contributions is subject to control to ensure it falls within Europeana’s scope (limited to European heritage) and avoid any offensive content. In this way, Europeana has contributed to the realization of an essential cultural right at the European level: the right to participate in cultural life [61].

4 Conclusion

Having explored the intricacies of culture, the commons, and their digital dimension, we would like to share a few remarks as openings for further research.

Firstly, the notion of the commons is strongly present in the world of digital cultural content, but is not often expressed in legal terms. No legal definition is given, nor is there any mention of this concept in the various analyzed texts. The law is in fact ill-equipped to think about this common space, between the public and private. This common space is fundamentally dynamic, insofar as the commons primarily constitute a form of action, resulting in legal forms that prioritize doing over possessing. The dogma of appropriation still marks legal minds. Yet legal experts are increasingly mobilizing imaginaries, for instance proposing major reforms to the French Minister of Justice for the inclusion of commonality in French law [7 : 102].

Secondly, cultural diversity is much better recognized in terms of law, but is not often mentioned in legal texts (especially European ones) that deal with digital aspects, whether it be digital markets or services in general or digital European cultural heritage specifically. Once again, the absence of reference does not mean that the issue is not taken into account, but it could indicate a lack of interest in integrating it more explicitly.

Finally, the movements analyzed in European law towards a paradigm of access to data, and consequently to digital cultural content, testify to the ongoing concern to find a fair balance between producers of cultural content (artists, creators, communities, etc.), sometimes undervalued, and distributors of content (GAFA, etc.), often overrepresented. Commons intervene in this search for a balance of interests, wanting to go beyond the narrow notion of the public domain of copyright law, which functions too much like a negative receptacle, to offer an inclusive paradigm [23], such as that of “informational common domain”. [7 : 223–245] In the cultural domain, some authors also advance the notion of “meta-cultural property”, which would bring together all cultural content in a shared global culture [63]. The data resulting from this meta-cultural property, however, are subject to new appropriations, as with the viral appearance of NFTs, but also open up new commons, as the European Union seems to do with the creation of a common space of data for cultural heritage, always in this search for balance.

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