NICOLAUS COPERNICUS SUPERIOR SCHOOL | SGMK
Copernican Journal of Law
No. 3 (2/2025), pp. 35–52
DOI: https://doi.org/10.71042/CJL02202502

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Beyond the Human: Generative Artificial Intelligence for the Cultural Heritage

• **Abstract** •

The evolution of artificial intelligence has come to challenge the concept of work of art as an expression of human personality, since there are processes of genuine creativity through so-called generative artificial intelligence. Thus, there is a need to analyze the legal regime of works of art created through generative artificial intelligence tools, whether individual rights can be recognized over them, addressing the role of public authorities in promoting cultural expressions to ensure the collective fruition of the intangible value they may carry.

Keywords: Human, Creativity, Individual Right, Fruition, Valorization, Cultural Heritage.

Introduction

The subject of this contribution represents a real knot of problems of an ethical-legal nature. Reference should be made to the relationship between generative artificial intelligence and creativity, as well as its impact on cultural heritage. The fundamental issues underlying this difficult relationship are essentially the following: (1) What is the legal regime of works of art created through generative artificial intelligence tools? (2) Can individual rights insist on such works? (3) What is the space of public power for the valorization of these expressions of culture, understood as an activity not merely aimed at increasing their economic value, but at ensuring the collective enjoyment of the intangible value of which they could be bearers?

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Human Creativity and the Evolution of Generative Artificial Intelligence

Art and work of art have always represented, especially for jurists, enigmatic notions, given the difficulty of outlining the legal regime of the products of human creative genius and of the consequent expressions that makes them perceptible to the community. Therefore, law must be complementary and serving to art, as only a correct legal regulation allows the work of art to acquire a materiality and to become part of the organized community and its commercial relationships. This perspective also influences the current Italian legislation on copyright law no. 633 of 22nd April 1941, which declines art as a concrete manifestation of creative ingenuity. The law is, therefore, based on the concept of originality and human creativity, necessary for the recognition and protection of moral and patrimonial rights (Muciaccia, 2021, p. 761; Giaccaglia, 2023, p. 70).

In fact, Article 1, para. 1 and 6 of the Italian copyright law emphasizes the concept of a work of art as an expression of the intellectual work and physical personality of the author. As also stated in case law,[1] the requirement of novelty and originality is not sufficient for the recognition of the right but is also necessary to assess the personal contribution of the author to the realization of the work, understood as a qualified expressive effort.

To date, however, the degree of evolution reached by artificial intelligence technologies has come to challenge the difference between a work of art and the expression of the human personality, as there are processes of real creativity through so-called generative artificial intelligence mechanisms. This is due to the combination of two factors: the increase in the computing power of machines and the increase in the amount of *input* data available (*big data*).

Generative AI, or Generative Deep Learning (GDL), is based on a vast *set* of *input* data, not previously classified (labeled), which are processed to lead to an artistic *output* of a representative nature, with the addition of significant elements of creative autonomy. GDL manifests a clear potential to produce outputs that society, and the legal system, could judge as creative, in the musical, literary, but also artistic fields (Zhou and Lee, 2024; Hutson and Harper-Nichols, 2023, p. 461; Franceschelli and Musolesi, 2022; Papa, 2019).

Reference should be made, for example, to GPT models, Midjourney, Stable Diffusion, Dream Up image generator or to Deviantart, which are tools that receive text/images from human compilation in order to generate images; or to

[1] Court of Milan, sec. Business, 19 April 2021, no. 3204; Italian Supreme Court, sec. I, 16 January 2023, no. 1107.

Google Deep Dream, which is a neural network that is based on the prior classification of *input* images, with a generative model that works in a reversible sense: the image, therefore, is not obtained as an *output*, but through continuous modifications of an image provided as *input*.

The latter represents a model of Generative Adversarial Networks (GAN), in which, for the creation of new data, is carried out an adversarial training between a generator based on false data and a discriminator based on real data, in a continuous process of adaptation in order to make the artificial *outputs* increasingly indistinguishable from the real ones. These GDL systems have led to the creation of works of art that have already had significance: in 2018, for example, the first work of art created using the GAN method (the portrait of Edmond de Bellamy) was sold at auction at Christie's in New York, for about $400,000).

Many other examples exist not only in art (literature, music, cinema), but what is relevant here is that a real revolution is deconstructing, also from a legal and not only philosophical point of view, the concepts of creation (Campione et al., 2024, p. 131), imputation, fruition, and circulation of culture.

Access to Cultural Goods Generated by Artificial Intelligence. Individual Belonging and Public Use

The concept of virtual access to cultural heritage is also crucial for creativity through AI (when GDL can have a cultural value), as well as for the digitization of cultural heritage (Forte, 2023; Lalli, 2022; Carpentieri, 2020, p. 263; Casini, 2018).

Virtuality must be understood not only as a new means of external communication or dissemination of works, but also as a tool for a new approach to culture and, therefore, for the facilitated use of cultural heritage and of its intangible public interest values. The public fruition of such works is facilitated as these values are incorporated in a digital tool, uprooted from a spatial reality and from the legal constraints of the *lex rei sitae*.

However, considering the range of intangible values expressed by the cultural heritage (Giannini, 1976, 1992; Casini, 2015, p. 987), in a relationship between the State, public user and owner (now even become multilateral, as the interests of private financiers or software owners also appear) (Casini, 2022; Timo, 2022; Gualdoni, 2019; Cavallaro, 2018; Fantini, 2014; Morbidelli, 2014; Bartolini, 2014; Barbati, 2008; Dugato, 2007), the balancing between individual, moral and patrimonial rights on cultural content and the public interest in the enjoyment of the values of which are bearers, becomes even more difficult in works generated by AI, where the knot of individual belonging is truly inextricable.

There are two dogmatic premises that must be placed. First, the concept of AI includes a variety of systems, in which the degree of human intervention diverges greatly in relation to the creative output (Muciaccia, 2021, p. 762). Such systems range from AI-assisted output, a typical manifestation of weak AI (for which in the artistic field it is easy to recall the traditional parallelism with a chisel or a brush), up to the generative models, capable of carrying out rapid and even structurally similar elaborations to biological intellectual processes.

In this sense, however, in order to counterbalance triumphalist tendencies, it must be pointed out that from a creative point of view these processes represent a mere imitation of the original and that there would not be a real strong artificial intelligence, since—according to the cognitivist theories of Searle and his well-known experiment of the Chinese room[2] (Searle, 1990)—the main property of human intelligence is intentionality, which cannot be reduced to the simple execution of computational tasks (Farina, 2021, p. 106; Comandè, 2019, p. 169).

An opposite thesis, on the other hand, taking Turing's theories as a reference, believes that it makes no sense to ask whether a machine can think like a human being, because no one really knows how the latter thinks, and that, therefore, if machines can learn, decide and create, it is right that they are legally responsible, thus emphasizing the creativity of the result and not of the creative process.

In short, most of the activities thanks to which we define ourselves as human would be only a sum of mechanical, calculable and predictable processes. Notwithstanding the fact that this debate appears far from a solution, it does not seem to be deniable, however, that the creativity of AI is largely due to the use of models that transform input into a numerical representation, associating a number with each input word on the basis of systems that capture the semantic proximity between words (encoders), and by a decoder, which generates a probability distribution that predicts which word or sequence is closest to the input one. In other words, AI would be a structurally "reproductive" and not "cognitive" intelligence. The task it performs is intelligent, according to the interpretation offered by our cognitive criteria, but it is not so for the machine that performs it to achieve an assigned goal. In this regard, it was noted that "In AI, it is the result that counts,

[2] The argument of the Chinese room, in criticism of the notion of strong artificial intelligence, was elaborated by the philosopher John Searle. It is based on a concrete fact: an Englishman sitting in a room follows instructions in English to process Chinese symbols, while a computer follows a program written in a computer language. English, therefore, seems to understand Chinese thanks to the fact that it follows the instructions for processing symbols, when in reality it will never understand Chinese. Similarly, since the computer simply does what the man in the room does—processing symbols on the basis of syntax alone—it will never truly understand Chinese.

not whether the agent or its behavior is intelligent. For this reason, AI is not about the ability to reproduce human intelligence but about the ability to do without it." (Floridi, 2022, p. 52).

Therefore, the so-called artificial creativity, despite having a sophisticated ability to elaborate truly innovative elements through an original recombination of pre-existing data, lacks self-awareness. The machine has a servant function, but does not understand what it does, carrying out the creative process with mere associations of numerical values. It lacks that metacognitive mechanism of self--observation and self-evaluation that is the critical essence of the creative process.

Generative AI would also lack the intentional and finalistic dimension (represented by the ideal or value purpose of artistic creation), as well as the so-called body dimension, for which cognitive functions are based on simulations of experiences, anchored to the system of shared values in a given context, which activate the creative process. In other words, if ChatGPT is able to (re)produce text, music and images, it does not seem to be able to understand the meaning they take.

Given the variability of the systems described above and the related philosophical and technical approaches to their potential, even in the legal field it can't be founded a consensus on an unambiguous definition of artificial intelligence, as this is left to generic or vague definitions,[3] which, if misinterpreted, could hide an empty and triumphalist tendency to *digital washing,* to the extreme in which "a blind and confused citizenry that stubbornly claims the digital chains of Plato's cave, where the fire of algorithms projects the shadows of repressed aspirations and illusions destined to remain so, unable to redeem the unfortunate consenting from his insignificance" (Gabriel, 2024).

The Legal Regime of Generative AI Works

The above-mentioned perspective of necessarily humanized creativity leaves it to the interpreter to qualify the legal regime of AI works, through the determination of the degree of human contribution considered sufficient in order to recognize an individual right. See, in this regard, the rulings of the Beijing Court of 2023

[3] Just think of the definition provided by EU Regulation no. 2024/1689 of 13rd June 2024, Article 3, para. 1, no. 1, according to which an "AI system" is "an automated system designed to operate with varying levels of autonomy and which may exhibit adaptability after deployment and which, for explicit or implicit objectives, infers from the input it receives how to generate outputs such as forecasts, content, recommendations or decisions that may affect physical or virtual environments."

on the StableDiffusion image generator,[4] as well as the rulings of authorities operating in the field of intellectual property and of several courts (European Union, USA, Australia) that dealt with the case of the *Dabus* creative algorithm, with substantially conservative positions (Sterpa et al., 2023, p. 1120).

In Italy, decision of Supreme Court no. 1107/2023,[5] in the case of a flower processed with *AI software* for the scenography of a famous tv-show, represents one of the first examples in which a judge has addressed, albeit *incidenter tantum,* the legal issue of the work in which the technology is part of the creative process, demonstrating, however, that outside human expression, the field is totally unexplored. In this case, it has been ruled that the use of an algorithmic tool does not necessarily exclude human authorship, since the gradient of human intervention must be verified as a determining variable of the creative process.

However, under a public perspective, it does not seem to be possible to deny that works created with the help, even as a substitute, of generative AI could, like those that are pure expression of the human personality, be bearers of values under consideration. Therefore, from this point of view, the theme of individual belonging represents one of the poles of a dialectical tension between individual rights and the public interests relating to intangible goods and values, that go beyond the protection of authorship are imposed.

From a methodological point of view, it should also be specified that the cultural asset digitized by image reproduction of analogue content does not constitute an original creation, but a computer copy that is not legally autonomous from the original (hence a certain ease in admitting its precarious and non-profit use). It must also be said that the images of the cultural heritage, if not characterized by any creative contribution, could not even represent assets of the same kind as the reproduced asset (not necessarily borrowing its cultural value) and, therefore, would not represent autonomous cultural goods (in the sense of autonomous testimonies of value), but mere documents capable of conveying knowledge. It has been correctly pointed out (Forte, 2023; Carpentieri, 2020, p. 263), that the issue of digitization of cultural heritage has very little to do with AI cultural heritage, representing the former, at most, a different and new way of using the intangible value contained in a tangible asset. The problem, therefore, arises for our purposes exclusively regarding native works through AI and cannot neglect investigating the relationships between mechanisms of allocation of authorial rights and public interests in the enjoyment of the intangible values expressed in the creative-generative work.

[4] Beijing Internet Court, Civil Section—Jing 0491 Min Chu No. 11279/2023.

[5] Italian Supreme Court, sec. I, 16 January 2023, no. 1107/2023.

This is also because in the future native AI works created by exploiting the collective heritage of human knowledge as *input* may be considered testimonies with civilizational value, i.e. assets for collective use subject to enhancement processes. As is well known, valorization is an open and dynamic notion that represents a set of activities aimed at promoting knowledge of cultural heritage and at ensuring the best conditions for its use, but also the establishment of resources, structures or networks, functional to the enhancement of cultural heritage.

It is an administrative function—or, according to doctrine (Dugato, 2007), a complex activity made up of services, functions, standardization and other activities, which is objectively public (Giannini, 1993, p. 121). This objectively public activity shapes cultural goods as public in terms of use (which is distinguished from mere economic use), as they are objectively intended to satisfy certain needs of the community. Such vision, however, cannot fail to consider the delicate balance with the proprietary aspect of the underlying tangible res, even more in a reality in which portions of the external world once free of rights are the subject of growing claims aimed at paralyzing collective fruition (Resta, 2023, p. 143).

For this reason, looking at the topic of generative AI, the following questions also arise to the attention: (1) Is it possible to freely use protected works and/or works of cultural value as training *datasets* for generative models used for private profit? (2) Who (if any) will own the rights to the works generated on the basis of these processes?

As regards to question (1), four different categories of use of *input* data (works) or generative purposes can be identified: (a) training data not protected by economic rights, such as works that have fallen into the public domain; (b) protected material, but released under a permissive license or licensed directly by rights holders; (c) processes that invade the market (which threatens the market for that data); (d) processes that do not invade the market, as they have purposes (including public) unrelated to the monopoly on copyright. With reference to the process under (a), reference has to be made to works that have fallen into the public domain because of the dissolution of copyright rights. In this case, apparently, the problem of balancing individual rights with the public regime lies in countering appropriative pressures aimed at exploiting culture in the public domain, which represent a useful *input* for a generative AI process.

If the work is protected but its use has been acquired through a license agreement, which does not expressly prohibit reproduction even for generative purposes [the case under (b)], the balance is essentially left to a contractual framework, which however takes into consideration issues of allocation of economic interests. For protected works, or for those to which is granted access not in digital

form or not for the purpose of reproduction [(c) and (d)], the question remains undefined.

On this point, it does not seem to be possible to deny that if the AI model is built to imitate the *input* (with some non-substantial modifications) and this is trained on a protected work, it will itself replicate that work at least partially, since it can be considered as a direct reproduction of it. Therefore, the *output* could infringe the exclusive right of the pre-existing work, but the infringement depends on the degree of imitation, as well as on the purposes that the reproduction pursues.

In this framework, to outline an initial regulatory framework of the disruptive impact of generative AI in the creative field, various tools have been used. US case-law has applied the concept of *fair use,* propagating a theory according to which the use of copyrighted works is authorized, without prior request for a license, looking at the purpose of the use and its economic nature, at the nature of the work, at the quantity and substantiality of the portion used and at the impact of the use on its potential market (Franceschelli and Musolesi, 2022, par. 3.1).

In Europe, on the other hand, a preventive balancing has carried out by the legislator, preferred to a case-by-case approach, which has emphasized the purpose of the use, providing for the free reproduction of a work in the public domain without the possibility that related rights can be affixed to it, without prejudice to the provisions of the Code of Cultural Heritage which in any case operate within a field other than copyright.[6] It has also been inserted the provision for the making available of public data in an open format for the purpose of their free use, reuse and sharing.[7]

Reference should be made also to the extraction of images and data for the purposes of computational analysis and model training, the so-called *TDM-text and data mining*, referred to Directive no. 2019/790 and Directive no. 2019/1024,[8] transposed in Italy, respectively, with Legislative Decree no. 177 and no. 200 of 8 November 2021 (Scullo, 2021). This is because, in line with *considerando* no. 53 of

[6] See, Article 32-quarter of the Law on Copyright, inserted by Legislative Decree no. 177 of 8 November 2021, implementing EU Directive 2019/790 on copyright and related rights in the digital market and amending Directives 96/9/EC and 2001/29/EC which provides: "Upon expiry of the term of protection of a work of the visual arts, including as identified in Article 2, the material resulting from an act of reproduction of that work shall not be subject to copyright or related rights, unless it constitutes an original work. The provisions on the reproduction of cultural goods referred to in Legislative Decree No. 42 of 22 January 2004 remain unaffected."

[7] See, Article 5 of Directive 2019/790 as well as *considerando* no. 9 thereof, according to which "The intelligent use of data, including their processing through artificial intelligence applications, can transform all sectors of the economy."

[8] Directive no. 2019/1024 of the European Parliament of the Council of 20 June 2019 on open data and the re-use of public sector information.

Directive no. 2019/790, free circulation promotes access to cultural heritage and stimulates new forms of creativity.

The question, however, remains unanswered on one point: who would be the owner of the rights attached to a work of art produced by a generative model trained on protected *input* data? In the face of the substantial lack of discipline of a normative system conceived on material things for rival and excludable use, there is a contrast between the theses above: (1) the ownership regime of the individual ownership of the work IA, with the elaboration of various legal fictions; (2) the fall into the public domain, which enhances the intangible cognitive heritage that the works would release for the growth of culture, also in favoring the increase in the production of works that brings a benefit to the community.

The thesis of the fall into the public domain tends to "exploit" the above-mentioned characteristics of the current legislation which, pursuant to the copyright law, requires creation as an indefectible expression of intellectual work, suggesting that the author can only be a human. In short – since the creative character requires the physical personality of the author, also by virtue of Article 2575 and Article 2580 of the Italian Civil Code, according to which intellectual work is a mere human expression—there would be a tendency to completely exclude artificial agents from the possibility of being holders of rights of individual belonging. The fact that the manifestations of digital creativity must refer to a physical expression of the human personality also refers to the problem of the legal regime of immateriality, on which some clarifications must also be made. From the point of view of cultural heritage, every expression of immateriality is, to date, considered relevant by the legal system only for its insistence on a material good.

Reference should be made to Article 7-bis of the Italian Code of Cultural Heritage, entitled "Expressions of collective cultural identity", which, in an attempt to give prominence to the intangible component of cultural heritage also as a result of the ratification of the UNESCO Convention of Paris, ratified with Law no. 167/2007, has firmly anchored its legal value to a representation of the same by material goods.[9] On this point, a dogmatic distinction should be made between the intangible cultural value expressed by a *res* and the intangible cultural asset properly understood, investigating whether intangibility can ever be assessed in a legal system in which the legal relevance of the tangible *res* predominates.

[9] Which provides: "The expressions of collective cultural identity contemplated by the UNESCO Conventions for the safeguarding of the intangible cultural heritage and for the protection and promotion of cultural diversity, adopted in Paris, respectively, on 3 November 2003 and 20 October 2005, are subject to the provisions of this code if they are represented by material evidence and the prerequisites and conditions for applicability are met Article 10."

It is in this conceptual context that arguments could be used against the proprietary model, making collective value prevail over individual rights, identifying freedom of access and use of cultural content (including computer content) as the rule. Therefore, the fall into the public domain of the creative work through AI would be supported by a broadly appropriative power of the community, which does not reside in property, but in a function, objectively public and overriding the private dimension, of guaranteeing the fruition of the intangible value of which the works (including GDL) could be the bearers. This function is even more significant today, in which intangible *res* flourish in the immaterial dimension of the infosphere that can/will be considered as valuable testimonies of today's civilization. In other words, it can be said that the mere externalization of a product having its own autonomy results not only in a materiality to be protected with ownership of the product, but also (and especially for generative AI, where it is difficult to outline a tangible creative expression) a plurality of values and a cognitive heritage to be valued and promoted (even, regardless of a formal public declaration of cultural interest).[10] Moreover, it could be observed that a possible reservation in favor of the owners of commercial use does not automatically prevent general use for the needs of learning, study and research and, therefore, for the promotion of culture (this is the path that seems to have been followed at the European level).

Therefore, there are resources that increasingly escape a regulation based on the reality of goods (which also reveal their inadequacy, which in some ways the jurisprudence is trying to remedy)[11] and which, due to their non-rival and non-excludable character, lend themselves to benefiting the community for the progress of science, arts and culture. Furthermore, according to a doctrine, this could intercept a further profile of the function, namely valorization, understood as the economic enhancement of the work that can pursue not only the objective of ensuring

[10] Constitutional Court, 4 June 2013, no. 194, according to which "The circumstance, in fact, that a specific thing is not «classified» by the State as of «artistic, historical, archaeological or ethno-anthropological interest», and therefore is not considered as a «cultural asset», does not mean that it may, on the other hand, present, albeit residually, some «cultural» interest for a given territorial community: this interest remaining anchored, hypothetically, to an inalienable identity heritage, of ideals and experiences and even symbols, of that single and specific community."

[11] Council of State, 13 February 2023, no. 5, according to which "the notion of cultural property, in a dynamic and modern vision, must be understood in a broad sense: it, while presupposing res quae tangi possunt, can also include a quid pluris of an intangible nature. 6.1. In view of this breadth of significance, the greatest possible extension, under current legislation, of the forms of protection provided for by the legal system, which allow an «elastic» and effective protection of the cultural heritage, not limited to its material consistency, but considering it globally, for the cultural values that it expresses and carries within itself."

collective use, but also of achieving indirect economic benefits for the economic operators concerned.

Conclusions. Challenges and Opportunities in the Difficult Balance between Individual Belonging and the Public Domain of *Generative Deep Learning Works*

The thesis of the fall into the public domain of generative AI works is not exempt from "tragic" criticalities (Hardin, 1968), as the absence of individual exclusive rights, which retrocede in the face of the mere consideration of the function (and fruition), could lead to the lack of incentives for the creation, as well as the dissemination, use and improvement of valid generative AI products, with the growing risk of spreading false, distorted or otherwise low-quality material.

A further related risk is also that of the proliferation of inappropriate or low-value information, which certainly could not contribute to promoting cultural progress. The dissemination of poor-quality digital material would also lead to increasingly uniform and standardized content, possibly used for techniques of commercial persuasion (*nudge art*) or distortion of public opinion. The fundamental issue, as pointed out by a doctrine, is that cultural heritage, especially if considered in its functional aspect, constitutes a volatile area insusceptible to a unitary legal regime, towards which only measures of recognition, protection and authentication, but hardly of ownership control, can be configured (Morbidelli, 2014).

The anchoring of our legal system to materiality, moreover, is aimed at preventing a so-called *pan-culturalism* that would lead to covering the entire social life, so that everything would become heritage, even regardless of a specific declaration, thus dissolving the very notion of cultural heritage. The process of digitization of art (also through creativity by means of GDL), has accentuated this volatility, as these are assets located in an a-territorial dimension that escapes the traditional instruments of national sovereignty. The issue of defining the contours of individual belonging to these resources, therefore, is linked not only to economic aspects, but also to the development of a creativity that allows effective progress for civilization and does not reduce itself as a megaphone to convey messages aimed at protecting the commercial interests of private powers.

To counterbalance the fall into the public domain and its problematic consequences, an attempt was made, first of all, with at *fictio iuris*, to construct a condition of legal personality of the digital agent that has led to dogmatic problems.[12]

[12] See, the position expressed in the 2017 resolution of the European Parliament for the recog-

On this point, theories have been developed that turn towards the attribution of an attenuated legal personality to the machine, and therefore a legal condition that should allow it to become the center of imputation of legal situations (Farina, 2021, p. 6). Moreover, there has already been an effort by the doctrine to elaborate legal fictions of personality or to attribute legal situations to what can be defined as fictitious or peripheral subjectivities of the legal system. However, this conceptual line is more useful for the attribution of legal effects of financial liability and for the allocation of damages (so-called *liability rules*), while it provides less certainty regarding the ownership of situations that expand the legal sphere of the individual.

In the latter perspective, according to a utilitarian conception, it has been hypothesized to shift the visual angle of ownership to the natural person who has placed the necessary acts so that the work could come into existence (the user of the machine), considering sufficient for the creative act the mere completion of the conceptual or preparatory phase of a work, i.e. the conception of the essential features of a path that can generate an *output*, regardless of the execution and finalization of the same.

This perspective places eminent emphasis on the purpose of the recognition of individual rights as a stimulus to the production and dissemination of new creations. Even this construction, however, reveals its problematic nature, when it is confronted with increasingly autonomous generative artificial intelligence systems, whose opaque decision-making mechanisms are less and less attributable to human input. Again from a utilitarian perspective, attention has been paid, for protection purposes, to the economic rights deriving not so much from the creative act itself, but to the activity of the person who have allowed the organization and the activity carried out to facilitate the enjoyment of an artistic expression by a wider public.

For these purposes, it would also be crucial not so much the difficulty of identifying a possible personal expression of creativity, but, rather, the protection of entrepreneurial investment in innovation for the design and implementation of a creative AI system. This appears, however, too unbalanced on the economic side,

nition of a legal *status* for machines, aimed, at least for the most sophisticated autonomous robots, at the attribution of electronic personality. European Parliament resolution of 16th February 2017 containing recommendations to the Commission on civil law rules on robotics, calls for the "establishment of a specific legal status for robots in the long term, so that at least the most sophisticated autonomous robots can be considered as electronic persons responsible for compensating for any harm caused by them, as well as possibly the recognition of the electronic personality of robots that make autonomous decisions or interact independently with third parties."

leaving completely unexplored the moral aspect of individual protection (the moral rights of paternity, of integrity, of withdrawal and resale), in which the personal imprint is an essential requirement for accessing a form of legal protection.

Furthermore, what has been said does not solve the problem of the balance between ownership and the volatile and a-territorial public value released by creative digital works, which exploit public domain images as input and whose creativity could constitute testimony having civilizational value. In the words of Naomi Klein (2023), "what we are witnessing is that the richest companies in history (Microsoft, Apple, Google, Meta, Amazon…) They are unilaterally sequestering the sum total of human knowledge that exists in digital, archival form and isolating it within proprietary products, many of which will directly target humans whose working lives have trained machines without giving permission or consent." In other words, we need to look not only at the risks of individual appropriation of protected works, but also at those of the massive exploitation of the "sum total of human knowledge that exists in digital and downloadable form" to generate creativity.

Examining the issue from a functional perspective, an approach based on conventional international law has been proposed (Lehmann, 2023, p. 162), that would require any commercial distributor of generative AI systems trained on large amounts of publicly available content to pay a fee and, in any case, to tag GDL products. These contributions could support the creation of a system of digital commons or benefit cultural progress, such as a global fund for cultural development, also aimed at promoting territorial cohesion and the reduction of gaps.

The system would ensure that commercial actors, who benefit disproportionately from access to the "sum of human knowledge", can only do so on condition that they remedy negative externalities in relation to the public interest of this appropriation. A manifestation of digital public sovereignty is necessary, in which institutions must select intangible values from the vast *pool* of works that could represent tools of *creative input* and *output*, to preserve them and provide access to them, creating a legal framework in which the public domain forms the external limit of intellectual property (Boyle, 2008). However, in this framework, the problem always remains that of the regulation of the areas of contact between the two regimes, to avoid the extremes of the mentioned appropriative pressures, but also of a total emptying of individual rights that would deprive the concept of creativity of meaning. This is necessary to regulate an environment in which people are used to work with material in public domain but are also interested in gaining access to quality digital goods, protected by rights, which facilitate new ways of reuse that derive from their diffusivity, with the aim of creating new culture.

The challenge for public institutions is therefore to make available the goods that can be easily used also as creative *inputs* that pursue the goal of stimulating the creation of culture. Sovereign institutions, to this end, would also have another conventional tool at their disposal: they can negotiate directly with rightsholders the reuse of protected material and native digital content, to be disseminated in a protected environment where access can only be granted to registered users under certain conditions, and not to every possible user worldwide.

In short, a supranational (at least continental) approach is necessary, to balance the expropriation of culture driven by the "neo-feudal" private powers, from which derives a deconstruction of national sovereignty, in a global dimension composed of highly digitized spaces, which tend to respond to the logic of a private power that holds and knows the technological codes and the ability to affect the functionality of the network and everything that circulates in it (Colarusso, 2023).

One could think about the establishment of an Authority that regulates and supervises, at a supranational level, the legal regime of products obtained through creative AI, providing, for anyone who puts such products into circulation, the obligation to report the relative derivation of products from creative AI. However, such Authority should be able to operate within a clear framework and be equipped with the appropriate legal instruments for the purpose.

In short, if it is true that the freedom of access to AI content tends to deconstruct the traditional ownership model, it is necessary to ensure a reasonable balance between the interests involved, to prevent a total fall into the public domain, combined with the growing use of GDL, from having a negative effect on the development of new forms of culture. On this point, the challenge is to pursue a functional perspective, withdrawing attention on the issue of individual belonging and emphasizing the reuse of data also for machine learning training purposes.

The Directive no. 790/2019, in fact, allows not only the free reproduction of works in the public domain, but also, the reproductions made by research bodies and cultural heritage institutes with the purpose of extracting text and data (*text and data mining*), through an automated technique aimed at analyzing large quantities of texts, sounds, images or data with the aim of generating information aimed at acquiring new knowledge (Article 70-ter of the Italian copyright law).[13]

[13] Which provides "1. Reproductions made by research organisations and cultural heritage institutions for the purposes of scientific research, for the purpose of extracting text and data from works or other subject-matter available in networks or databases to which they lawfully have access, and the communication to the public of the results of research where expressed in new original works, shall be permitted.

Article 70-quarter of the Italian copyright law, transposing Article 4 of the aforementioned Directive, allows text *and data mining* in databases to which there is legitimate access and provided that there is no opposition from the author or owner of the database, i.e. an automated technique aimed at analyzing large quantities of texts, sounds, images, data or metadata in digital format with the purpose of generating information, including patterns, trends and correlations.

In the same conceptual line is the recent draft enabling Italian law on artificial intelligence which, in Article 24, proposes to insert, in para. 1, of Article 1 of the copyright law, the adjective human to describe the process, as well as the notation, perhaps superfluous, for which works are protected "even when created with the aid of artificial intelligence tools, as long as the human contribution is creative, relevant and demonstrable." Similarly, the law proposes to insert Article 70-septies of Italian copyright law, which allows the reproduction and extraction of works or materials through generative AI, while complying with the conditions set out in Article 70-ter and *quarter*. The law, in fact, provides as follows: "The reproduction and extraction of works or other subject-matter through models and systems

2. For the purposes of this Law, text and data mining means any automated technique aimed at analysing large amounts of text, sound, images, data or metadata in digital format with the aim of generating information, including patterns, trends and correlations.

3. For the purposes of this Law, «cultural heritage protection institutions» means libraries, museums, archives, provided that they are open to the public or accessible to the public, including those belonging to educational establishments, research organisations and public broadcasting organisations, as well as institutes for the protection of cinematographic and sound heritage and public broadcasting organisations.

4. For the purposes of this Law, research organisations shall mean universities, including their libraries, research institutes or any other entity whose primary objective is to conduct scientific research or to carry out educational activities including scientific research, which alternatively:

a) operate on a non-profit basis or whose statutes provide for the reinvestment of profits in scientific research activities, including in the form of public-private partnerships;

b) pursue an objective of public interest recognised by a Member State of the European Union.

5. Research organisations shall not be considered to be those over which commercial undertakings exercise a decisive influence such as to allow preferential access to the results generated by scientific research activities.

6. Copies of works or other subject-matter made in accordance with paragraph 1 shall be stored with an appropriate level of security and may be retained and used only for scientific research purposes, including the verification of research results.

7. Rightholders shall be authorised to apply, to an extent not exceeding what is necessary for the purpose, appropriate measures to ensure the security and integrity of the networks and databases in which the works or other subject-matter are hosted.

8. The measures referred to in paragraphs 6 and 7 may also be defined on the basis of agreements between associations of rightholders, cultural heritage protection institutes and research organisations."

of artificial intelligence, including generative ones, are permitted in accordance with the provisions of Articles 70-ter and 70-quarter." It could be said that we are moving towards the enrichment of the already varied notion of valorization with further content: the sovereign use of cultural values for the training of machine learning models for research and promotion of culture purposes.

Public institutions could therefore develop, with text and data mining, secondary products and generative AI models, created on the basis of vast available databases of certified value such as public ones, ensuring reuse in open format, with the possibility of obtaining fees for the reuse of them by third parties, to recover the costs incurred for production, the provision and dissemination of content, as well as to make a reasonable return on investments (as required by EU Directive no. 1024/2019 on the so-called open data government, implemented in Italy with Legislative Decree no. 200/2021).

The idea is that of an open, controlled and sovereign "digital cultural space", a shared environment in which users, but also large private companies, can access conditions that guarantee that collective usability can be balanced with the protection of individual exclusive rights. The theme, from this point of view, becomes not so much the philosophical question, although relevant, of the *legal status* of AI agent, but the possibility to dominate the expropriation of cultural value that is achieved by *generative deep learning* tools. These tools consubstantially lend to a serial production of low quality, whose diffusivity risks emptying of content the intangible value expressed by tangible goods that are testimony of culture and civilization, confusedly throwing them back into *massive dataset* or *black boxes*, dominated by private codes unknown to public power.

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