

# A Few Observations on Some Current Issues in the Digital Revolution of Cultural Heritage\*

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**ABSTRACT** The paper, tackling the highly topical issue of the digitalization of cultural heritage, dwells on the articulated reform process aiming at the digitalization of cultural heritage and emphasises the true social function of cultural property, whose universal availability is the ultimate goal pursued by Article 9 of the Constitution. The observations are based on the recent orientations of the Recovery and Resilience Plan, focusing on the analysis of the impact of artificial intelligence in the digital revolution of cultural heritage. In this perspective, the focus is on how the use of emerging technologies can act as a driver of new ways of valorising cultural property which exploit both the attractiveness potential of the property and innovative models of content presentation. The option to implement new technologies to cultural heritage is part of a more general vision focused on the possible “birth” of a digitalized cultural property that draws its cultural “value” from the intangible dimension of the basic asset. The idea behind the reflections that follow aims to overcome the “cosità” of things that are part of digitalized cultural property to dwell on the intangible value of the property to give it greater relevance and protection.

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## 1. Introduction

In the never-ending process of digital revolution of public administrations, the use of artificial intelligence is seen as an essential tool to ensure new forms of protection, valorisation and fruition of cultural heritage.

Therefore, a way to achieve this goal is to create a new relationship between technology and cultural heritage. A relationship that is not limited to the preservation of cultural heritage but aims to rethink the collaboration/interaction between public administration and the private sector as a part of horizontal subsidiarity falling within the framework of horizontal subsidiarity pursuant to art. 118 (4) of the Italian Constitution.<sup>1</sup>

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<sup>1</sup> On the principle of horizontal subsidiarity, intended as a vehicle for the transformation of the “methods of democracy”, see the approach of Council of State, Section consultative for regulatory acts, 25 August 2003, in *Giurisprudenza italiana*, 2004, 716, on which see, for further details, G. Razzano, *Il Consiglio di Stato, il principio di sussidiarietà e le imprese*, in *Giurisprudenza italiana*, n. 4, 2004, 716. For a further study on the principle of horizontal subsidiarity, see, *ex plurimis*, E. Follieri, *Le funzioni amministrative nel nuovo Titolo V della parte seconda della Costituzione*, in *Le Regioni*, 2-3, 2003, 444; G.U. Rescigno, *Principio di sussidiarietà orizzontale e diritti sociali*, in *Diritto pubblico*, 2002, 19; G. Arena, *Il principio di sussidiarietà orizzontale nell’art. 118 u.c., Costituzione*, in *Studi in onore di Giorgio Berti*, Naples, Jovene, 2005, 179; S. Cassese, *L’aquila e le mosche. Principio di sussidiarietà e diritti amministrativi nell’area europea*, in *Foro italiano*, V, 373; V. Cerulli Irelli, *Sussidiarietà (dir. amm.)*, in *Enciclopedia giuridica*, Agg. XII, 2004, 1.

And so, in an organic system of digital revolution, the use of strategies based on a virtual use of cultural heritage enables the development of digital services and the development of applications for the creation of a distributed ledger and promotes the creation of new digital-cultural contents to stimulate an economy based on the circulation of knowledge.

The observations that can be drawn from the analysis of this phenomenon lead to a necessary rethinking of existing legislative provisions that reflect the latest technological innovations and the impact of these on current legislation.

Against this background, the true social function of cultural property, i.e. universal fruition, should be carefully emphasised: a social function that can be attributed not only to digitally-born cultural property, but also to digitally-transcended cultural property, as the ultimate objective set out in Article 9 of the Italian Constitution.<sup>2</sup>

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<sup>2</sup> See F. Santoro Passarelli, *I beni della cultura secondo la Costituzione*, in *Studi per il XX anniversario dell’Assemblea Costituente*, II, Florence, Vallecchi, 1968, 436, who says that “in the overall evaluation of the constitutional text, it seems to be clear that the protection of cultural property is a corollary of the fundamental rule concerning the development of culture and this protection must be oriented in the most appropriate direction to achieve the use of property as an instrument of culture”. See also F. Merusi, *Sub Art. 9*, in G. Branca (ed.), *Commentario alla Costituzione, Art. 1-12 Principi fondamentali*, Bologna-Rome, Zanichelli-II foro italiano, 1975, 434; A. Sandulli, *La tutela del paesaggio nel-*

And also, in line with the recent guidelines of the Recovery and Resilience Plan,<sup>3</sup> the focus will be on the potential “birth” of a digitalized cultural property that draws its cultural “value”<sup>4</sup> from the intangible dimension of the basic property.

## 2. The Universal Fruition of Digital Cultural Heritage

Undoubtedly, one of the factors leading to the digital reinterpretation of the fruition of cultural heritage is a renewed interpretation of the whole of public activities through which the administration pursues the interest of the community to universally enjoy the multiple cultural values expressed by our historical and artistic heritage.<sup>5</sup> In the digital transition, the preservation and valorization of cultural property<sup>6</sup> is flanked by “the constitutional

duty to promote culture (which) makes it a priority to allocate the public cultural heritage as fully as possible to collective fruition”.<sup>7</sup>

In this perspective, the core of this new face of public administration can be found in the impact that new technologies have had on cultural heritage, which guarantees the implementation of the cultural value through the globalization of content and digital fruition. The use of emerging technologies<sup>8</sup> - including Blockchain<sup>9</sup> - aims to create a new

la Costituzione, in *Rivista Giuridica dell'edilizia*, 1967, 7; E. Spagna Musso, *Lo Stato di cultura nella Costituzione italiana*, Naples, Morano, 1961, 73; E. Picozza, *Tutela e promozione dell'arte e della cultura. Relazione tenuta al Convegno annuale A.I.P.D.A. 2018 su: Arte, Cultura e ricerca scientifica – Costituzione e Amministrazione*, Reggio Calabria, 2018.

<sup>3</sup> For acute reflections on PNRR, see M. Clarich, *Il Pnrr tra diritto europeo e nazionale un tentativo di inquadramento giuridico*, in *AstridRassegna*, 2021, 1-15 and L. Casini, *Il ministero della Cultura di fronte al PNRR*, in *Aedon*, 2, 2021.

<sup>4</sup> “Indeed, what counts, in order to identify them, is the value they have (their cultural interest), an intrinsic value, which is always a human value, a value of civilization, which expresses the way of ‘thinking, feeling and living of social groups in time and space’”: in these terms see V. Cerulli Irelli, *Beni culturali, diritti collettivi e proprietà pubblica*, in Vv. Aa., *Scritti in onore di Massimo Severo Giannini*, vol. I, Milan, Giuffrè, 1988, 140.

<sup>5</sup> These points were first highlighted by G. Rolla, *Beni culturali e funzione sociale*, in *Le regioni*, 1987, 57 and in Vv. Aa., *Scritti in onore di Massimo Severo Giannini*, vol. II, Milan, Giuffrè, 1988, 563.

<sup>6</sup> On the general concept of valorisation see P. Carpentieri, *Fruizione, valorizzazione, gestione dei beni culturali*, *Relazione al convegno “Il nuovo codice dei beni culturali e del paesaggio. Prospettive applicative*, 26 July 2004, who said on Article 9 “we move [...] from a static idea of protection, as a “state” reservation of the cultural property and as a limitation to its commercialisation and use, to a dynamic idea of the management of the cultural property, centred on the enhancement of the expression of its cultural value, which aims to become a service offered to the cultural growth of the public”. See also L. Casini, *Valorizzazione e fruizione dei beni culturali*, in *Giornale di diritto amministrativo*, 5, 2004, 479; Id., *La valorizzazione dei beni culturali*, in *Rivista trimestrale di diritto pubblico*, 2001, 651; M.C. Cavallaro, *I beni culturali: tra tutela e valorizzazione economica*, in *Aedon*, 3, 2018; S. Cassese, *I beni culturali dalla tutela alla valorizzazione*, in *Giornale di diritto amministrativo*, 1998, 673 et. seq.; A. Iacopino, *Modelli e strumenti per la valorizzazione dei beni culturali. Spunto di rifles-*

*sione nella prospettiva del risultato amministrativo*, Naples, Editoriale scientifica, 2017, *passim*; S. Mele, *Valorizzazione, fruizione ed uso dei beni culturali*, in *Il diritto dei beni culturali e del paesaggio*, E. Follieri (ed.), Naples, Edizioni Scientifiche Italiane, 2005, 271-303; F. Merusi, *Pubblico e privato e qualche dubbio di costituzionalità nello statuto dei beni culturali*, in *Diritto amministrativo*, 2007, 1; G. Severini, *Valorizzazione del patrimonio culturale*, in M.A. Sandulli (ed.), *Codice dei beni culturali e del paesaggio*, Milan, Giuffrè, 2012, 53; Id., *La valorizzazione dei beni culturali*, in *Rivista giuridica dell'ambiente*, 3, 2013, 238; A.L. Tarasco, *Diritto e gestione del patrimonio culturale*, Bari, Laterza, 2019.

<sup>7</sup> In these terms see N. Aicardi, *L'ordinamento amministrativo dei beni culturali. La sussidiarietà nella tutela e nella valorizzazione*, Turin, Giappichelli, 2002, 227.

<sup>8</sup> See A. Lazzaro, *Innovazione tecnologica e patrimonio culturale tra diffusione della cultura e regolamentazione*, in *www.federalismi.it*, issue 24, 20 December 2017, 2, especially 9. In her opinion, “there is no doubt that technologies for their enormous potential applied to cultural property, therefore, should be viewed favorably, appreciating their positive content, as they can contribute to the preservation of the cultural identity of places, the dissemination of culture and the production of new cultural offerings, and, they can be an important driver supporting competitive growth, as well as the development of innovative business models, with the advantage of diffusing knowledge of property without endangering its preservation or maintenance. [...] All this, from a socio-cultural point of view, helps to recover and pass on more easily to future generations the cultural identity of one’s own country and in the same time encourages knowledge of other cultures”. For an illustration of emerging and distributed ledger technologies see G. Gallone, *Blockchain, procedimenti amministrativi e prevenzione della corruzione*, in *Il diritto dell'economia*, 3, 2019, 187-212; Id., *La pubblica amministrazione alla prova dell'automazione contrattuale. Note in tema di smart contracts*, in *www.federalismi.it*, issue 20, 24 June 2020, 142-170; A.G. Orofino and G. Gallone, *L'intelligenza artificiale al servizio delle funzioni amministrative: profili problematici e spunti di riflessione*, in *Giurisprudenza italiana*, 7, 2020, 1738-1748; A.G. Orofino, *La semplificazione digitale*, in *Il diritto dell'economia*, 3, 2019, 87.

<sup>9</sup> For a technical reconstruction of the Blockchain technology, see, furthermore, L. Parola, *Blockchain e contratti intelligenti: uno sguardo al mercato dell'energia*, in *Il teleriscaldamento, la Blockchain e i contratti intelligenti*, E. Bruti Liberati, M. De Focatiis and A. Travi (eds.), Padua, Wolters Kluwer, 2019, 93; F. Faini, *Il diritto nella tecnica: tecnologie emergenti e nuove forme di regolazione*, in *www.federalismi.it*, issue 16, 27 May

connection between technology and cultural heritage, which, as a digital “fruition property”,<sup>10</sup> is essential to pursue the objectives of the promotion and development of culture<sup>11</sup> that “the State [...] must ensure the community [...] the enjoyment of the cultural values expressed by it”.<sup>12</sup> In this context, firstly, the enhancement of cultural property must be carried out, considering its overall value in compliance with protection legislation,<sup>13</sup> and, secondly, every citizen can enjoy the cultural property (digital native or merely digitally transited) by accessing it with a personal account.<sup>14</sup> This strategy aims to

create new or more up-to-date forms of protection to defend the integrity of cultural heritage, which combine guarantees for better collective enjoyment with protection for the benefits of future generations.

Massimo Severo Giannini’s highly topical reflections fit into this renewed context. He said that “the cultural property is public not as property of ownership, but as property of enjoyment [...] Universal usability is what is of legal interest”.<sup>15</sup> Giannini’s reconstruction stimulates a reinterpretation of the ultimate goal pursued by cultural heritage, also from a digital perspective, which reflects the provisions of the Council of Europe Framework Convention on the Value of Cultural Heritage for Society and the Recommendation concerning the Protection at national level of the cultural and natural heritage adopted by the General Conference of UNESCO on 16 November 1972.<sup>16</sup>

It is clear and uncontroversial that globalization and the recognition of a universal value of cultural heritage, combined with digital accessibility to it, complements a model characterized by a bottom-up approach that enables a direct approach to cultural heritage. This approach is an expression of a tendency to consider, as a priority, the side of the users of the digitalized cultural property. Specifically, the dialogue tool provided using artificial intelligence and distributed ledger

2020, 93; M. Faioli, E. Petrilli and D. Faioli, *Blockchain, contratti e lavoro. La ri-rivoluzione del digitale nel mondo produttivo e nella PA*, in *Economia e lavoro*, 2016, 139-158, especially 143; A.M. Gambino and C. Bompreszi, *Blockchain e protezione dei dati personali*, in *Diritto dell’informazione e dell’informatica*, 3, 2019, 625; F. Sarzana di S. Ippolito and M. Nicotra, *Diritto della Blockchain, intelligenza artificiale e IOT*, Milan, Wolters Kluwer, 2018.

<sup>10</sup> On this issue see P. Forte, *Il bene culturale pubblico digitalizzato. Note per uno studio giuridico*, in *P.A. Persona e Amministrazione*, 2, 2019, 245, especially 265. See also L.R. Perfetti, *Il bene pubblico ai tempi dell’assenza della cosa. Appunti per una possibile (contro)teoria dei beni pubblici*, in *P.A. Persona e Amministrazione*, 2, 2019, 303-310.

<sup>11</sup> For acute reflections on this point see P. Forte, *NFT, tutto il potenziale (reale) di ciò che presenta una “cosità”*, in *Il Mattino*, Naples, 2022, which says that “today’s public museums are able to make a commitment on such advanced, and innovative fronts, accepting to experiment and, thus, helping themselves and all of us to understand, comprehend, practice the new possibilities of the digital dimension of cultural heritage. [...] we must recognise [...] the merit of having accepted these challenges, one of which consists in using elements of the heritage assigned to them to set up and circulate new tools called NFT, that is Non-fungible Token, which can be translated into Italian but risks being misleading, given that this acronym today designates a plurality of devices that have significantly different characteristics, but for what interests us have in common, at least, that they use a digitalised image of a cultural property and are made unique using a technological expedient. Not simply a copy and not even just a representation, but something else with its own original “cosità”, which can provide them with a higher value than reproduction. [...] The Ministry of Culture set up a technical table to draw up behavioural guidelines to help the structures that protect, preserve and guarantee heritage (so that we can enjoy it) to handle them”.

<sup>12</sup> See Italian Constitutional Court, 6 March 1990, no. 118, in *Foro italiano*, I, 1990, 1101

<sup>13</sup> On the globalization of cultural property see, *amplius*, L. Casini, *La globalizzazione dei beni culturali*, Bologna, Il Mulino, 2010, *passim*.

<sup>14</sup> See P. Carpentieri, *Tutela e valorizzazione dei beni culturali*, in *Urbanistica e appalti*, 9, 2003, 1019, “on the one hand, valorization means the realization of the conditions for the best fruition of the cultural property, i.e. for the best management of the property in order to ensure the maximum expression of its ontological voca-

tion and destination for public fruition. On the other hand, a second, more economic conception of the notion of *mise en valeur* of the cultural property aims at considering valorization as a mode of entrepreneurial management of the cultural property able to determine (at least) sufficient revenue to (generally) cover management costs and to ensure a reinvestment useful for the strengthening and improvement of protection”.

<sup>15</sup> See, in these terms, M.S. Giannini, *I beni culturali*, in *Rivista trimestrale di diritto pubblico*, 26/1, 1976, 24.

<sup>16</sup> A fundamental contribution is also due to UNESCO for the elaboration of the concept of “common heritage of mankind”. On this point see, among others, J.H. Merryman, *Protection of the cultural heritage*, in *American Journal of Comparative Law*, 1990, 513; U. Leanza, *La protezione dei beni culturali e il concetto di patrimonio comune dell’umanità*, in *Scritti in onore di Angelo Falzea*, Milan, Giuffrè, 1991, I, 822; V. Pepe, *Il paesaggio naturale e culturale e il patrimonio mondiale dell’umanità*, in *Trattato di diritto amministrativo*, G. Santaniello (directed by), vol. XXXIII, A. Catelani and S. Cattaneo (eds.), *I beni e le attività culturali*, Padua, Cedam, 2003, 45; E. Baroncini (ed.), *Il diritto internazionale e la protezione del patrimonio culturale mondiale*, Bologna, Ams Acta, 2019; T. Scovazzi, *La Convenzione per la salvaguardia del patrimonio culturale intangibile*, in T. Scovazzi, B. Ubertazzi and L. Zagato (eds.), *Il patrimonio culturale intangibile nelle sue diverse dimensioni*, Milan, Giuffrè, 2012.

technologies is designed to include multiple social demands in public policies aimed at the protection and enhancement of cultural heritage.<sup>17</sup> This aims to build a connection between innovation and the virtual fruition of cultural property and consequently avoid the cultural inadequacy of museums or other cultural sites.<sup>18</sup>

The emphasis on fruition gets a strong accentuation, more recently, in the choices made with the PNRR: the Plan's exhibition process reveals the multiple skills of artificial intelligence<sup>19</sup> to introduce the public to culture and art using active enhancement tools.<sup>20</sup>

The Plan, in Mission 1 "Digitalisation, Innovation, Competitiveness, Culture and Tourism", offered the opportunity to act on the digital transformation by supporting the innovation of the production system and pressed on the need to invest in two key sectors, tourism and culture, aiming at reducing the structural gap in terms of competitiveness, productivity and digitalization of our country, in general, and of the Mezzogiorno, in particular. In this context, the Plan noted that emerging

technologies, including Blockchain, are applicable as an important guide in the process of creating a Digital Cultural Heritage. In this process, digital platforms and strategies allow the exploration of new forms of protection, valorization and fruition of cultural heritage, as well as an easier accessibility and fruition of cultural property, as an instrument or object of culture, by removing the physical and cognitive barriers of museums, libraries and archives.<sup>21</sup>

The PNRR puts a strong accent on renewing the methods used for the fruition of cultural property and provides citizens a system that allows for better conservation of cultural property due to the collection and storage techniques adopted with the consequent guarantee of safe transmission to future generations.

The peculiarities of artificial intelligence concerning the traceability of operations and the application of the diffuse validation model, when appropriately included in the digital revolution of culture, make it possible to eliminate redundant data during the populating and cataloguing of cultural heritage, enable a new form of participation to transfer the entire cultural heritage on digital media, and allow the complexity of the cultural property<sup>22</sup> to be kept within focus by harmonizing different knowledge through interoperable language.

In order to encourage universal fruition of cultural heritage, digital systems in the cultural sector are therefore designed to achieve an accessible mapping of cultural heritage, fully digitized and ready to exploit the peculiarities of distributed ledger technologies, including Blockchain.

This is a digitalization process (for which a meritorious judgement must be reserved) that aims to transform cultural heritage into digital cognitive capital with diffuse accessibility and its potential, applied to the universal fruition

<sup>17</sup> See B. Barraud, *Les blockchains et le droit*, in *Revue Lamy droit de l'immatériel*, 147, 2018, 1. The Author says that: "Le futur quel les blockchains rendent possible est un monde plus horizontal. Le nouveau droit qu'elles forgent serait par conséquent un droit plus horizontal, se passant d'organes de tutelle et de contrôle [...] les blockchains permettraient ainsi de reconstruire sur de nouvelles bases les sociétés, le collectif, les inter-individualités, suivant le modèle d'une société décentralisée, horizontalisée".

<sup>18</sup> On this point see *Il patrimonio culturale per tutti. Fruibilità, riconoscibilità, accessibilità. Proposte, interventi, itinerari per l'accoglienza ai beni storico-artistici e alle strutture turistiche*, G. Cetorelli and M.R. Guido (eds.), Quaderni della valorizzazione – NS 4, Rome, 2017, 20.

<sup>19</sup> For an analysis of new risks for public administrations in the use of AI, see A. Barone, *Amministrazione del rischio e intelligenza artificiale*, in *European Review of Digital Administration & Law – Erdal*, vol. 1, issue 1-2, 2020, 63-67. See, also, on the impact of Artificial Intelligence on Administrative Activity E. Picozza, *Politica, diritto amministrativo and artificial intelligence*, in *Giurisprudenza italiana*, 7, 2019, 1761-1771 and D.U. Galletta and J.G. Corvalán, *Intelligenza artificiale per una Pubblica Amministrazione 4.0? Potenzialità, rischi e sfide della rivoluzione tecnologica in atto*, in *www.federalismi.it*, issue 3, 6 February 2019, 2-23.

<sup>20</sup> Digitalization cannot be ignored, not only in terms of contents, but also in terms of modes of fruition and instruments for communicating and conveying the cultural offer. In this sense see A. Meschini, *Digital technology in the communication of Cultural Heritage. State of the art and potential development*, in *DisegnareCon – Scientific Journal on Architecture and Cultural Heritage*, 2011, 8.

<sup>21</sup> On this topic see, concurringly, V. Fanti, *Verso un turismo ecosostenibile e una digitalizzazione del patrimonio culturale*, in Vv. Aa., *Il Pnrr alla prova del Sud*, L. Bianchi and B. Caravita (eds.), Naples, Editoriale Scientifica, 2021, 137-146.

<sup>22</sup> First mention of the notion of cultural property was made in the *Convention pour la protection des biens culturels encas de conflict armé* signed in 1954 in L'Aia. For the Convention Text see *Per la salvezza dei beni culturali in Italia. Atti e documenti della commissione d'indagine per la tutela e la valorizzazione del patrimonio storico, archeologico, artistico e del paesaggio*, Rome, Colombo, III, 1967, 59.

of cultural property, can support the preservation of the cultural identity of places, the circulation of culture and the creation of new cultural offers (just think about initiatives such as Aerariumchain, the MarTa 3.0 project, the ARTathlon contest, etc.).

In these choices, one can see the renewed need to provide for a new valorization of digitized cultural heritage and the necessity to set up new and more effective models for its fruition. And so in an organic system of digital revolution, the aid of strategies aimed at a useful distribution of data (Blockchain) allows the development of applications for the creation of a distributed archive to catalogue artworks held by museums and other cultural sites;<sup>23</sup> it enables the creation of new cultural content and the development of digital services by cultural/creative enterprises or start-ups; and, finally, it provides greater certainty and transparency on the origin and authenticity of the artworks by ensuring a control system on the originality and truthfulness of the cultural heritage.

A global fruition, even if digital, that becomes the aim both of the valorisation activity and of the protection of cultural property as set out in Articles 3 and 6, comma 1, of the Italian Cultural Heritage and Landscape Code.

### **3. Some Observations on the Intangibility of Digital Cultural Heritage**

On the second line of research relating to the undoubted benefit of digital transition for the valorization of the “new” intangible cultural property, it is essential to underline the need, frequently remarked, to overcome the limit of materiality to achieve an “autonomous” digital dimension of the property. The cultural property gains World Heritage status regardless of its physical site or the virtual support in which it is located. The most important thing is how the property is conserved, enhanced and made useful.<sup>24</sup> In a

digitally-oriented interpretation Massimo Severo Giannini sustained that: “the cultural property is not a material property, but an immaterial one: being a testimony having the value of civilization is an immaterial entity, which is related to one or more material entities, but legally it is distinct from them, in the way that they are a physical support, but not a juridical property”. Cultural property’s inherency to the thing is overcome as the cultural value of a property is an immaterial property not requiring identification with the thing to acquire culturality. These observations underline an overall standpoint which considers that digitalization of cultural heritage is the final step in a complex reform process aimed to affirm the intangible cultural value of cultural property.

These actions prompt further remarks.

In this digital-transition path are included the reflections flowing into the Italian Cultural Heritage and Landscape Code (Legislative Decree No. 42 of 22 January 2004), which in Article 2 aimed to overcome the “realness” of things included in cultural property to dwell, firstly, on the intangible value of cultural property seen as testimony having civilization value and, secondly, to accord relevance and protection to nonmaterial cultural property whose tangibility is excluded. The Code ensured this by including all cultural and landscape heritage with “cultural value” in the unitary class of cultural heritage. The Italian Cultural Heritage and Landscape Code demands the “memory” be protected as a prerequisite of national identity, not its tangible dimension.<sup>25</sup> So, although it can be agreed that the mere digital reproduction of the real cultural property is not, by itself, a “new” intangible cultural property, but rather a “new” way to benefit from it, it should also be noted that, in line with European policies, the protection of cultural heritage “also means promoting its regeneration, supporting contemporary creativity”.<sup>26</sup>

<sup>23</sup> See, on the matter, B. Barraud, *Les blockchains et le droit*, 48, who said that a blockchain “could remind us (using a metaphor) the idea of a large, open, unforgeable account book, freely accessible and in which it is possible for everyone to write under the control of all, in the knowledge that all that has already been written is unchangeable. A page of a book would correspond to a block, while its binding would form the chain”. See, also, O. Lasmoles, *La difficile appréhension des blockchains par le droit*, in *Revue internationale de droit économique*, 4, 2018, 453.

<sup>24</sup> From this point of view see L. Bobbio, *Le concezioni*

*della politica dei beni culturali*, in Vv. Aa., *I beni culturali: istituzioni ed economia. Tavola rotonda nell’ambito della Conferenza annuale della Ricerca (Roma, 20 maggio 1998)*, Atti dei convegni Lincei, no. 152, Accademia dei Lincei, Rome, 1999, 13 et. seq.

<sup>25</sup> See L.R. Perfetti, *Premesse alle nozioni giuridiche di ambiente e paesaggio. Cose, beni, diritti e simboli*, in *Rivista giuridica dell’ambiente*, 1, 2009, 1.

<sup>26</sup> These words are from E. Sciacchitano, *Il patrimonio culturale nelle politiche e nei programmi dell’Unione europea. Ampliando l’orizzonte dalla conservazione all’innovazione*, in *Cartaditalia*, vol. II, 2018.

Similarly, the first reflections on the digital transition of cultural property should also be viewed from the perspective of the idea that the “new” digitalized property can be marked by unprecedented traits in relation to its analogue model<sup>27</sup> and, only in residual hypotheses, can be a simple copy of the basic tangible property.<sup>28</sup> This occurs in a reinterpretation of the notion of cultural heritage aimed at the valorization of immateriality<sup>29</sup> that draws its inspiration from

<sup>27</sup> A position radically opposed to the explicit prediction of new and autonomous immaterial cultural property can be found in P. Carpentieri, *Digitalizzazione, banche dati digitali e valorizzazione dei beni culturali*, in *Aedon*, 3, 2020, in which “[i]t is wrong to think that digital reproductions uploaded on the Internet constitute new, autonomous “immaterial cultural property”. If anything, they are new “uses” of the intangible value contained in (and expressed by) the (tangible) cultural property. [...], it is not the “object” of the discipline that changes, but the “discipline” of the object (the discipline of a new possible use of it, carried out through an innovative medium, which complements the traditional ones). [...] digital reproductions of the cultural good are digital copies of the real cultural good (which is necessarily a *res corporalis*)”.

<sup>28</sup> On this topic see, *amplius*, P. Forte, *Il bene culturale pubblico digitalizzato. Note per uno studio giuridico*, 256. In his opinion, “in order to try to identify the characteristics of a cultural property that has been digitalised, it may be tempting, first of all, to consider that digitalization basically consists in a simple reproduction, a function that has been widely known for a long time for cultural property; [...] and, secondly, that digitalization also has the possibility, in order to make up for the possible loss of “testimony” [...] of adding to the reproduction [...] a series of potentialities, that even in the most elementary operations allow, for example, a more accurate possibility of study, a multiplication and a deepening of perceptive experiences, but above all to provide contents and cognitive tools of various kinds, [...] that make up for what is lost with the lack of *cosità* and originality, the decrease of its aura, and increase the capacity to convey knowledge, thus bringing back and adding value”. On the theme of the digital as a new form of cultural property, see also, D. Donati, *La digitalizzazione del patrimonio culturale. Caratteri strutturali e valore dei beni, tra disciplina amministrativa e tutela delle opere d'ingegno*, in *P.A. Persona e Amministrazione*, 2, 2019, 323-337.

<sup>29</sup> See S. Cassese, *I beni culturali da Bottai a Spadolini*, in *L'amministrazione dello Stato*, Milan, Giuffrè, 1976, 177, and Id., *Il futuro della disciplina dei beni culturali*, in *Giornale di diritto amministrativo*, 2012, 781; G. Morbidelli, *Dei beni culturali immateriali*, in Vv. Aa., *Scritti in onore di Ernesto Sticchi Damiani*, G. De Giorgi Cezzi, G. Greco, G. Morbidelli, P.L. Portaluri and F.G. Scoca (eds.), I, Naples, Edizioni Scientifiche Italiane, 2018, 580; Id., *Il valore immateriale dei beni culturali*, in *I beni immateriali tra regole privatistiche e pubblicistiche*, A. Bartolini, D. Ponti, G. Caforio (eds.), Naples, Jovene, 2014; L. Casini, “*Noli me tangere*”: *i beni culturali tra materialità e immaterialità*, in *Aedon*, 2014, 1; E. Picozza and D. Siclari, *Per una (ri)costruzione dei patrimoni culturali immateriali*, in

the UNESCO charter for the Preservation of the Digital Heritage<sup>30</sup> and the Recommendation of 22 February 2017 on The European Cultural Heritage Strategy for the 21st Century.

Indeed, in these contexts there is a need to overcome the limitation of *res quae tangi potest* in the name of digital transition. We see the potential of the digital transition for the valorization of “new” immaterial cultural property in the relentless digitalization process that is investing our country.

The digital cultural property is perceived as a cognitive property, a provider of knowledge and “memory” to be protected, as a prerequisite of national identity and is not strictly related to tangibility. This is a property that can no more be said to be a simple reproduction of the original property, but which becomes richer with inscriptions in its digital “migration” precisely in order to avert a possible loss of cultural value, to provide new cognitive content and so acquire its own identity as an art object. Consequently, the protection of the “new” immaterial cultural property is seen in the provision of new forms of digital protection that preserve the immaterial value of the property and, therefore, its cultural value regardless of its material support.

In this direction, the aid of digital strategies, which can realise the recording of cultural property in a distributed archive, is oriented to using the algorithm, in support of the creation of a digitalized cultural property, as a technological infrastructure aimed at the reconstruction of the immaterial dimension of the basic analogue property. Indeed, it is

[www.federalismi.it](http://www.federalismi.it), issue 21, 13 November 2019.

<sup>30</sup> Article 1 of the Charter for the Preservation of Digital Heritage states that “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. Digital materials include texts, databases, still and moving images, audio, graphics, software and web pages, among a wide and growing range of formats. They are frequently ephemeral, and require purposeful production, maintenance and management to be retained. Many of these resources have lasting value and significance, and therefore constitute a heritage that should be protected and preserved for current and future generations. This ever-growing heritage may exist in any language, in any part of the world, and in any area of human knowledge or expression”.

essential to clarify that this choice contributes “to the birth of a new epistemic, cognitive property, derived from the already-existing cultural property, but not identical, and not even simply reproductive”<sup>31</sup> and allows for the rebalancing of relations between the administration and citizens, by giving citizens the possibility of benefiting from the maximum fruition of cultural property.

#### **4. Some Concluding Remarks**

Overall, Italy’s way facilitated a progressive and linear process of digital transition of cultural heritage that, starting with the digitalization of archival and book heritage, is gradually moving towards the implementation of advanced digital services, such as distributed ledger technologies, so that citizens gradually feel the benefits of the current transition.

The question on the table has multiple aspects that are relevant on different and concurrent levels. It cannot be denied that digitalization involves in some cases a simple reproduction of the original cultural property.<sup>32</sup> A digital replication of the tangible cultural property that represents a “new” way of enjoying it that stands alongside traditional ways and enriches the discipline of its protection, management and valorization. In this case, an inclusive approach re-emerges, aimed at including in the notion of cultural property<sup>33</sup> both the tangible and intangible and, consequently, the digital component.<sup>34</sup>

In other cases, the constitution of a digitalized cultural property using an algorithm re-proposes all the complexity of the “real” cultural property and also aims to reconstruct the immaterial dimension of the basic analogue property in support of the creation of a technological infrastructure that reproduces it. The digitalized cultural property has no material evidence but, with the help of strategies able to implement the registration of data in a distributed archive, aims to become a digital “thing” with intangible cultural value. And so, the traceability of operations and the widespread validation model, when appropriately included in the digital revolution of culture, would eliminate redundant data, reduce accidental errors and episodes of abusive alteration, and contribute to the implementation of new forms of conservation, certification and fruition of cultural heritage.

<sup>31</sup> In these terms see P. Forte, *Il bene culturale pubblico digitalizzato. Note per uno studio giuridico*, 259.

<sup>32</sup> See L. Casini, *Riprodurre il patrimonio culturale? I “pieni” e i “vuoti” normative*, in *Aedon*, 3, 2018; M. Modolo, *Reinventare il patrimonio: il libero riuso dell’immagine digitale del bene culturale pubblico come leva di sviluppo nel post Covid*, in *Territori della Cultura*, 2020, 210; D. Manacorda, *Patrimonio culturale, libertà, democrazia. Pensieri sparsi di un archeologo incompetente a proposito di “Diritto e gestione del patrimonio culturale”*, in *Il capitale culturale. Studies on the Value of the Cultural Heritage*, 21, 2020, 15.

<sup>33</sup> The notion of cultural property is described by B. Cavallo, *La nozione di bene culturale tra mito e realtà: rilettura critica della prima dichiarazione della Commissione Franceschini*, in *VV.AA., Scritti in onore di Massimo Severo Giannini*, 111-135.

<sup>34</sup> See on this topic P. Forte, *Il bene culturale pubblico digitalizzato. Note per uno studio giuridico*, 260. The Author thinks that “the real ambition of digitalization, in the cultural sphere, cannot be reduced to a mere duplication with a digital outcome, and to the care of the data consequently generated, since it can allow much more than a simple “representation”, both for the wide possibilities of handling and creative alteration that even the simple digital image of an object allows, and for the availability of cognitive enrichment regarding a “thing”

that its digital version allows to gather into a single entity”.

