

In the mangrove society: a collaborative Legal Deposit management hypothesis for the preservation of and permanent access to the national cultural heritage*

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Received: 14 April 2021; **Accepted:** 23 May 2021; **First Published:** 15 January 2022

ABSTRACT

Legal deposit, regulated by Law no. 106 of 15 April 2004 and Presidential Decree no. 252 of 3 May 2006, requires Italian publishers to deposit a copy of the published material with several libraries. Legal deposit involves long-term preservation and access to information on various media, not least computer networks. While traditional media are well regulated, digital legal deposit rules are barely sketched out. The National Central Library of Florence (BNCF), with the National Central Library of Rome (BNCR) and the Marciana National Library of Venice, created Magazzini digitali: a digital legal deposit project that allows harvesting of doctoral theses and e-journals produced by research institutions, in addition to ebooks and commercial journals. Thanks to a collaboration with Horizons and Giunti, BNCR has started an experimental deposit of ebooks through MLOL. While awaiting the regulation on digital legal deposit, it is urgent to reopen the debate on this issue and make more effective the collaboration between institutions involved in the management of the digital library heritage, so as to establish a coordination structure that will define the scientific guidelines and the appropriate technological and service choices.

KEYWORDS

Legal deposit governance; Digital legal deposit; National archive of Italian publishing production; National Central Library of Rome; National Central Library of Florence; Magazzini digitali.

* We would like to give special thanks to Rosa Maiello, Giovanni Bergamin, and Maurizio Messina who shared with us the experience of over 10 years of Magazzini Digitali, and many fundamental reflections for the drafting of our contribution.

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Legal Deposit and bibliographic control in the digital ecosystem

The National Central Library of Rome (BNCR) and the National Central Library of Florence (BNCF) are responsible for the collection, preservation, and cataloguing of Italian publishing production, under the Regulations for State public libraries (Presidential Decree 5 July 1995, no. 417, art. 1, para. 2). This task is possible primarily because of national laws on Legal Deposit (Law 15 April 2004, no. 106) and previous similar legislation in place in many Italian pre-unitary States. The Regulation on Legal Deposit currently in force (Presidential Decree 3 May 2006, no. 252) establishes that all documents of cultural interest which are intended for public use and produced in whole or in part in Italy must be delivered to the two National Central Libraries, for the creation of a National Archive of Italian publishing production, and to a certain number of libraries in the territory to which the publisher or the person responsible for the publication belongs, for the creation of a Regional Archive of Italian publishing production.¹ Legal Deposit constitutes, therefore, the main acquisition channel of publications for the two National Central Libraries. It is instrumental to the bibliographical control and constitutes its necessary premise. For this reason, the control of publishing compliance carried out by the two National Central Libraries, and still aimed only at publications distributed on traditional media, is of fundamental importance. It is interesting to reflect on why even in the digital ecosystem Legal Deposit continues to play an important role. We are immersed in an endless availability of databases, repertories and bibliographical indexes of different nature and origin, which often allow access, under certain conditions, not only to the bibliographical record but to the full resource. An ecosystem in which crowdsourcing appears to be the only way to truly govern the enormous mass of data and information produced by contemporary society. It is precisely these peculiarities of the digital information ecosystem that make Legal Deposit even more important: to preserve and make permanently accessible the national cultural heritage, a public authority must be identified to govern the entire process of acquiring, managing, and making available documents of any nature and on any medium.

Italian and European legislation

The regulatory framework of Legal Deposit in Italy is completed by the Ministerial Decrees of December no. 28, 2007 and December 10, 2009, which identify the beneficiary institutions of regional Legal Deposit, as well as further agreements, notes, and clarifications by the General Directorate for Libraries and Copyright on specific aspects of Legal Deposit. However, the legislation has several grey areas. First, there is the problem of a lack of coordination among depository institutions. Despite the existence of a Commission for Legal Deposit, which should meet periodically to control and monitor the implementation of the law and to define single issues related to it, and even though the General Directorate for Libraries has clarified some doubtful points, there is no coordinating body among depository institutions for the daily activities related to Legal Deposit, either at the national or regional level. There is also a lack of shared databases to monitor publisher activity and compliance. The regulations currently in force present sever-

¹ For previous legislation see (Alloatti 2008, 25–33).

al critical points linked to the growing phenomenon of paper self-publications:² among them, the problem of identifying the subject obliged to make the Legal Deposit stands out, as well as that of partial exemptions, based on the criterion of circulation (publications printed in less than 200 copies are not to be sent to the BNCR). The circulation criterion is difficult to verify both for conventional publishing and self-publications because the circulation is seldom stated in the publication. Finally, another critical point is the total exemptions, which still do not include, even under certain conditions, the exclusion of self-publications. Another problematic aspect is the number of copies for paper Legal Deposit, as many as four between National and Regional Archives of Italian Publishing Production,³ reduced to three with Decree-Law April 24, 2014, no. 66, for many regions. Even three copies are too many if they involve the multiplication of identical tasks across multiple libraries. Although the legislation provides that some particular types of documents must be deposited in specific institutions designated to manage them, it does not yet apply to all kinds of materials. A further critical point is the monitoring of the fulfillment of the Legal Deposit (Presidential Decree 3 May 2006, no. 252, art. 41), which the Regulation entrusts to generic control instruments of the depository institutions. BNCF and BNCR have databases that cross-reference OPAC and trade book data based on ISBNs and can allow for sufficiently effective monitoring of publishing compliance. At the regional level, however, there do not appear to be similarly adequate monitoring tools. Regional Legal Deposit is an innovative regulatory element because it introduces a partial decentralization of Legal Deposit, but it is also a critical element because the identification of depository libraries and the criteria for dividing the material to be deposited has been difficult. Regional Legal Deposit has not always been successful.⁴ Equally thorny is the question of penalties for failure to comply with the Legal Deposit requirement. In the face of widespread evasion, the system of sanctions set out in the legislation involves lengthy and cumbersome procedures.⁵ A comparison of documents received for Legal Deposit in 2019 at BNCR and BNCF leaves no doubt. For BNCR: 43205 monographs, 3410 children's publications, 3517 school texts, 387 sheet music and scores, 175 maps, 2329 audiovisuals (CDs, DVDs, and multimedia); the final tally of minor publications is yet to be made. For BNCF: 64184 monographs, 1790 children's, 3311 scholastic, 852 sheet music and musical scores, 123 maps, 2007 audiovisual, 2971 minor publications. These differences show the degree of evasion in both institutions, although partly due to partial exemptions and different categorization criteria. Furthermore, this penalty system tends to criminalize the publisher and thereby make him an enemy, rather than an ally, of the library, with harmful consequences for both parties. Finally, one of the weakest points of the legislation is that of the digital Legal Deposit (Presidential Decree 3 May 2006, no. 252, art. 37), the definition of which is postponed to a further regulation to be formulated – as yet non-existent but soon to be published. Article 37 of the Regulations refers to “voluntary forms of experimentation” of Digital Legal Deposit, through agreements with publishers. Despite the agreement between the Italian

² A survey conducted in 2015 by the AIE (Italian Publishers Association) had shown how even then almost 50% of ebooks published in Italy were self-publishing, for a total of over 25,000 titles per year. See («Quasi un titolo ebook su due è nato con il self publishing. L'indagine Aie: grandi numeri, ma il mercato è meno di un terzo» 2016).

³ Presidential Decree 3 May 2006, no. 252, art. 1, para. 2 and art. 6.

⁴ See (AIB Biblioteche e servizi nazionali 2020).

⁵ Law 15 April 2004, no. 106, art. 7; Presidential Decree 3 May 2006, no. 252, art. 11, art. 43, 44, and 45.

Ministry of Cultural Heritage and publishers, and despite *Magazzini digitali* (see below), the Digital Legal Deposit still lacks a regulatory framework that goes beyond the experimental phase. It is no longer possible considering the increasingly important Digital Legal Deposit as the younger brother of the paper Legal Deposit. Today it would be appropriate to overcome this obsolete vision and, on the contrary, to speak no longer of digital (or paper) Legal Deposit but of Legal Deposit *tout court*, since the two aspects are increasingly intertwined. Together with the enactment of the Regulation on the deposit of documents distributed via computer networks and the partial reformulation of Chapter VII of Presidential Decree 3 May 2006, no. 252, the Italian legislator has another opportunity to provide libraries with the appropriate tools to carry out their tasks: the planned stage of transposition into national law of the EU *Directive 2019/790 on Copyright in the Digital Single Market*,⁶ approved in February 2019. The Directive has received different opinions, sometimes conflicting, from professionals and associations of libraries and librarians⁷ but, certainly, the way in which it will be transposed may influence in one way or another the ability to preserve digital memory and especially the possibility of creating services on the digital documentation deposited and preserved: think of e-lending, but also of the cataloguing and indexing of deposited resources through text and data mining activities. The sustainability of Legal Deposit and bibliographic control services in the near future will depend, to a large extent, on how national and European legislators will integrate the point of view of memory institutions – libraries, archives, and museums – on preservation services and permanent access to information, within the reference legislation, both the one specific to Legal Deposit and the one related to copyright, privacy, and personal data processing.

Preserving digital memory: the experience of *Magazzini digitali* and the challenges of today

On December 15, 2020, the digital archive of *La Stampa*, one of the most important and long-lived Italian national newspapers, disappeared from the web.⁸ The archive was built in 2010 with Flash, a technology that, even then, though widespread, was considered risky, mainly because it was proprietary to Adobe, and therefore incompatible with the paradigms of the web, whose optimal functioning is guaranteed by the use of open standards. At the end of 2020, the archives of *La Stampa* had to “close for maintenance” until February 15th 2021 when, after a re-engineering of the platform, it is available again. In the meantime, because the digitization of the journal had been released under a Creative Commons (CC-BY-NC-ND-it 2.5) license, a team at the Internet Archive downloaded the entire archive and made it available by creating a special collection.⁹ We can safely say that that of *La Stampa* is by no means an isolated case. For different reasons, in 2017,

⁶ See <https://eur-lex.europa.eu/eli/dir/2019/790/oj>.

⁷ See («Le raccomandazioni della rete MAB per il recepimento della direttiva europea sul copyright» 2020). See also («Copyright reform (archived) - European Bureau of Library Information and Documentation Associations (EBLIDA)» s.d.).

⁸ (Tedeschini-Lalli 2021) and («L'archivio storico de La Stampa sarà di nuovo consultabile entro metà febbraio 2021» 2020).

⁹ *Archivio storico La Stampa*, “Internet Archive”, <https://archive.org/details/la-stampa-newspaper> (last accessed March 31, 2021).

the digital archive of *L'Unità* met the same end.¹⁰ We could cite the cases of thousands, or even millions – in the case of websites¹¹ – of digital resources of extreme interest that have vanished into thin air.¹² The preservation of digital resources and their accessibility in the long term is a de facto necessity of contemporary society, a responsibility that memory institutions cannot shirk. For this reason, despite the absence of regulations in the field of Legal Deposit of publications diffused through computer networks, the prototype experience of *Magazzini Digitali*,¹³ born as such on the basis of Presidential Decree 3 May 2006, no. 252, art. 37, has been consolidated over the years to become a real service. As of December 2020, *Magazzini Digitali* includes:

- over 170,000 doctoral dissertations, through harvesting with OAI-PMH protocol from the repositories of 58 Italian universities;
- about 180 open access journals, through harvesting with OAI-PMH protocol from the repositories of 7 Italian universities and other research organizations or associations;
- about 500 ebooks deposited in BagIt format;
- about 80 TB of high-resolution digital copies from library digitization projects (with Google Books Project as the main source).¹⁴

Besides, beginning in 2018,¹⁵ BNCf launched a Web archiving service joined by approximately 220 institutions for a total of about 300 sites subject to periodic archiving, ensuring long-term access to digital resources is an organizational, management, and technological challenge, even more than preserving them. In 2020 the Web archiving service made important steps:

- Bibliographic records related to doctoral dissertations and open access e-journals have been indexed in the catalogs (OPAC) of BNCf and BNCR, and archived resources made available by the internal networks of the two Institutes;
- the collections of websites archived by BNCf have been made publicly accessible on the Archive-it platform.

BNCR has an experimental service that focuses precisely on user utilization. BNCR and Horizons Unlimited LLC (the Italian company that creates MLOL – MediaLibraryOnLine, an Italian e-lending platform) reached an agreement in 2019 to start experimenting with free ebook deposit, which was initially joined by Giunti publishers and will be joined by Mondadori publishers during 2021. The pilot project foresaw an innovative infrastructure through a new MLOL Reader Desktop App, which uses for the first time in Italy the Radium LCP DRM, the open-source DRM system developed by EDRLab (the European branch of the Radium Foundation and member of

¹⁰ After a pirated copy of the archive was made available on the deep web for a few months, the archive came back online in October 2018, but it is still unknown to this day who and how made it possible to restore the service. See («Riappare online (con un curioso sottotitolo) l'archivio storico de L'Unità. Mistero sull'autore dell'operazione» 2018). *L'Unità* can be consulted at: *L'Unità*, "Internet Archive", https://archive.org/details/lunita_newspaper (last accessed April 1st, 2021)

¹¹ See also: <https://www.internetlivestats.com/total-number-of-websites/> (last accessed 16/12/2020).

¹² See (Laakso, Matthias, e Jahn 2021) the responsibility rested primarily with librarians, but the shift toward digital publishing and, in particular, the introduction of open access (OA).

¹³ (Bergamin e Messina 2010, 144–53).

¹⁴ <https://www.bncf.firenze.sbn.it/biblioteca/magazzini-digitali/>. See also (Storti 2019).

¹⁵ The BNCf carried out an experimental harvesting session in 2006 in which 7 terabytes of data were collected from websites belonging to the .it domain. These data are available through the Archive-it BNCf Collection: <https://archive-it.org/home/BNCf>. See also (Bergamin 2012, 170–74).

the W3C for the maintenance of EPUB)¹⁶. BNCR immediately welcomed the chance of experimenting with a service for the deposit and use of digital content that allows users to have immediate access to documents, without having to wait for the often very long processing times of paper documents.¹⁷ The possible future developments of accessory search and access services (the full text of the documents, the data mining procedures on the books, the possibility of enrichment of the OPAC dialogue with search engines, etc.) are also worthy of interest.

From deposit as a procedure to deposit as a process: a new design for managing complexity

Giovanni Bergamin summarized in 2006 the different positions following the enactment of Law no. 106 of 15 April 2004, which for the first time extended the obligation of Legal Deposit to documents circulated via computer networks: “impossible, useless, civil.”¹⁸ Public opinion has had to reconsider the usefulness of such an operation, recognizing that the preservation of digital memory is a duty for any “civilized” society. Instead, there is a debate about the possibility of carrying out this activity in an effective (concerning the available technologies) and efficient (concerning the amount of digital information currently being produced and growing exponentially) way. In addition to the lack of a clear regulatory framework, this possibility still seems remote because there has been too much focus on technology and too little on process management, as has happened in other areas involved in digital transformation. In the words of Luciano Floridi, who inspired the title of this contribution, “the challenge is not technological innovation but digital governance.”¹⁹ This governance cannot be implemented by applying or, worse, bending the paradigms of the pre-digital and pre-web world to the web world, but requires a “new design.” What is needed is a model that can manage the entire information flow, i.e., the process that enables long-term preservation and access to information, not just individual digital information or a single repository process. It is also an opportunity to reiterate that there is no longer a clear separation between an analog and a digital information flow, as already mentioned. As Luciano Floridi said, we live in a mangrove society²⁰ in which there is no longer a solution of continuity between offline and online.²¹ The new governance model should consider the management of Legal Deposit regardless of the nature of the objects or the form by which information is recorded and transmitted: [...] “The term deposit should not be understood in a literal sense (physically bringing an object to a particular location) but in the context of “Legal Deposit” as an “institution” where operation-

¹⁶ See <https://www.edrlab.org/readium-lcp/> and (Rosenblatt 2017).

¹⁷ MLOL acted as an intermediary between the Library and the partner publishers, setting up procedures for collecting data and bibliographic metadata of the ebooks, and packaging them in a special deposit package. The BNCR user who accesses the Desktop MLOL Reader App from local workstations can download locally the ebooks equipped with the new Readium LCP copy protection system.

¹⁸ (Bergamin 2012).

¹⁹ The quotations by Luciano Floridi are taken from the conference “For an ethics of technology” - Cubò, Bologna, February 13, 2020. See also (Floridi 2017, 2020).

²⁰ (Floridi 2018).

²¹ See (Floridi 2015).

al procedures must take into account the nature of the object”.²² To design this new governance model, it is necessary to attempt to briefly reflect on the main individual aspects that make up the Legal Depository process, and that have been affected by the digital transformation.

New roles and new actors

Under the law, responsibility for managing the institution of Legal Deposit, including long-term preservation and access to digital resources, is essentially shared between the State and the Regions. The State exercises it through the National Central Libraries of Florence and Rome, the Regions through the institutes identified by the Ministerial Decrees of 2007 and 2009. The traditional management of Legal Deposit allowed co-responsible institutions to proceed independently, often implementing practices that were supplementary in means and ends. The advent of digital technology makes this form of management impractical or inadvisable. A digital copy can be stored, cataloged, and indexed only once and still be accessible in geographically distant points. Moreover, the traditional management conflicts with other regulatory provisions, particularly the provisions of AGID (Agenzia per l’Italia Digitale) relating to the rationalization of public information and communication technology assets.²³ Until now, preservation of and access to resources has been almost exclusively the responsibility of depository institutions. Today, however, it is necessary to involve producers, distributors, and those responsible for information and records in any capacity, depository institutions, and organizations.²⁴ This does not mean that depository institutions lose or delegate part of their tasks, but that they rediscover a new role and actively bring new players into the resource management process. It has recently been estimated that the entire digital universe consists of approximately 44 zettabytes of data.²⁵ Even limiting the responsibility of memory institutions “to documents [of cultural interest] intended for public use [...] produced totally or partially in Italy”,²⁶ the mass of information to be managed is enormous and constantly growing. Unlike traditional media, thinking especially of websites, it is increasingly difficult to establish cultural interest from the origin: libraries will play a leading role precisely in the ability to define what is of cultural interest, a role that is not new to the traditional responsibilities and tasks of a library but unprecedented for the quantity and types of material to be selected. Digital and the web have not only changed a large part of the traditional publishing industry and market

²² (Bergamin 2012).

²³ «Razionalizzazione del Patrimonio ICT|Agenzia per l’Italia digitale». Accessed April 1st, 2021. <https://www.agid.gov.it/it/infrastrutture/razionalizzazione-del-patrimonio-ict>.

²⁴ The need for close collaboration between publishers or producers of information and depository institutions was already evident in 2011, during the phase of definition of the parameters of the experimentation of the Digital Legal Deposit service. On July 14 the General Directorate for Libraries and the most representative associations of the publishing industry signed an agreement “for the promotion of the convention for the legal deposit of digital documents and the license for their use”. Although the agreement did not have the expected operational results, it constitutes an important model for the collaborative management of digital legal deposit. See also General Directorate for Libraries website: Direzione generale Biblioteche e diritto d’autore. «Accordo MiBAC - Associazioni Editori». Accessed April 1st, 2021. <https://www.librari.beniculturali.it/it/notizie/notizia/4ee4df59-4819-11e1-88f7-b7fd06d12128/>.

²⁵ Tremolada, Luca. «Quanti dati sono generati in un giorno?» Info Data (blog - Il Sole 24 ore), 14 maggio 2019. Accessed April 1st, 2021. <https://www.infodata.ilsole24ore.com/2019/05/14/quanti-dati-sono-generati-in-un-giorno/>.

²⁶ Law 15 April, 2004, no. 106, art. 1, para. 1 and 3.

– think of the explosion of the self-publishing and print-on-demand phenomenon – but has also introduced new media or new ways of using existing content: social media, streaming video, podcast platforms, apps, etc. Depository institutions are thus no longer just conservators but selectors of resources. Digital preservation isn't a process that begins the moment the document enters the library's collections: the archivability²⁷ of a website and, in full, of a digital document must be an original "property" of the documents. The functions of the depository institutions should be reconsidered: the new task will be to define criteria and guidelines for the archivability of documents, taking into account, the theoretical models of reference and the state of the art of technologies on one hand and the real possibilities for information producers to adapt to these models or to adopt standards on the other hand. Similarly, cataloging and indexing can no longer be the exclusive prerogative of libraries, which activate the service as the resources enter the collections. Document producers or distributors should be involved. However, the definition of ontologies for the descriptive, semantic, and managerial metadata remains the responsibility of the depository institutions. Long-term access largely depends on the correct compilation of metadata that describes the policies for access, use, and reuse of documents:²⁸ cataloging and ordering of resources remains, even in the digital world, the first form of guarantee of access to these resources. Full-text indexing and refinement of search algorithms help facilitate information retrieval, but the number of documents and information that must be retrieved is, as repeatedly stated, increasing. It is therefore clear that the management of Legal Deposit, as a process with the characteristics previously identified, requires, in the first instance, a reorganization of personnel and workflows within the depository institutions. Legal Deposit is a completely new activity in some respects, while in others it continues some of the established services of libraries, which should, however, be revised in light of the changing ecosystem in which it operates. To provide an effective and efficient national service for the preservation and access of digital resources, aligned with international best practices (and indeed capable of constituting a model in its own right), and in keeping with current modes of cultural production, depository institutions should have a sufficient number of professionals capable of fully managing these activities in an integrated manner, not only from a scientific and technological point of view but also from an administrative and organizational one.

New models for acquiring, storing, and accessing resources

Legal Deposit as an institution becomes more understandable in the resource acquisition phase: the sending by the producer or person responsible for the digital publication is considered as a residual modality for the digital deposit, while automatic or semi-automatic harvesting of computer networks becomes the norm. As for the acquisition of resources, memory institutions should define

²⁷ "Archivability" refers to the set of characteristics that the content, structure, functionalities, and interfaces of a site should possess for the site to be preserved and made accessible over the long term with current web archiving tools. The concept is however extendable to other digital resources whether they are spread on the web or not. See also Biblioteca Nazionale Centrale di Firenze. «Archiviabilità dei siti web». Accessed April 1st, 2021. <https://www.bncf.firenze.sbn.it/biblioteca/archiviabilita-dei-siti-web/>.

²⁸ This system should provide for the possibility of managing any changes in rights over time, both those provided for by law (think of the term after which a work falls into the public domain) and for cases in which special or advance licenses are issued.

clear models²⁹ that always take into account the sustainability of procedures for all stakeholders and the characteristics of digital documents. In summary, the resource acquisition model should define what resources to acquire and how to acquire them,³⁰ what formats and what protocols, what descriptive and management metadata are required, what metadata for preservation must be attributed during acquisition.³¹ Access models must take into account copyright regulations, policies, and licenses established by the owners of the information, user profiles, indexing systems, and last but not least, the possibilities of replay systems. Finally, storage models should take into account the security and redundancy of data, their growth forecasts, and the ability to move and migrate data and documents as needed. These procedures should be based on globally shared conceptual models, take current technologies into account but not be strictly linked to them, and not disregard the regulatory and application context, here including not least the characteristics of work in and for the public administration.

A hypothesis of collaborative management of the Legal Deposit for the preservation and permanent access to the national cultural heritage

“Unfortunately, even when libraries recognize that they need fresh perspectives, they all too often turn to the academic and library-oriented technical communities that simply reinforce the same problems, rather than widening their reach to the outside world to bring in entirely new ideas and perspectives [...] In the end, libraries have reached an inflection point where they will continue to fade into irrelevance when it comes to web archiving if they are not dragged kicking and screaming out of the third century BC and into the modern world. Such modernization can only come from reaching outside of their traditional confines and engaging in sustained partnerships with the outside technical community, bringing in fresh perspectives and approaches. Until then, our web history continues to rapidly slip away, lost forever”.³²

Let us try to summarize the main peculiarities of the governance model of the national Legal Deposit service that have emerged so far:

- Digital preservation is not just secure backup,³³ so it is not an activity that can be solved with simple storage services;
- The preservation of digital cultural heritage is the task of memory institutions. It differs

²⁹ The theoretical reference model for digital preservation remains the OAIS model - Open Archival Information System, ISO 14721 standard. “Models” mean in this context the level of application procedures, therefore not strictly related to technologies and formats in current use. See (Michetti 2008, 32–49). About the latest revision of the OAIS standard see «OAIS: entro breve la revisione». ParER - Polo archivistico dell’Emilia-Romagna. Accessed April 1st 2021. <https://poloar-chivistico.regione.emilia-romagna.it/news-in-evidenza/oais-entro-breve-la-revisione>.

³⁰ “The mere accumulation of data, while waiting for more powerful computers, more sophisticated software, and new human skills, will not work, not least because we do not possess sufficient storage capacity.” (Floridi 2017, 18). “In hyperhistory, saving is the default option. The problem becomes what to delete.” (Floridi 2017, 22).

³¹ The reference standard for the production of preservation metadata is PREMIS (PREservation Metadata: Implementation Strategies), «PREMIS: Preservation Metadata Maintenance Activity (Library of Congress)». Accessed April 1st 2021. <http://www.loc.gov/standards/premis/>.

³² (Leetaru 2021).

³³ (Bergamin 2018).

from “standard preservation”³⁴ in terms of both the object of the preservation (documents of cultural interest vs. computerized documents) and the objectives of the service (preserving the products of national culture and scientific research vs. guaranteeing the evidentiary value of the documents) while presenting necessary similarities in terms of technological solutions;

- Long term preservation is above all a service that has to do with democracy: access to information with equal opportunities for all citizens can only be guaranteed by public institutions, and cannot be the exclusive prerogative of private companies, even if they have a public purpose;³⁵
- Digital management requires a revision and rationalization of the policies of protection, valorization, and access to cultural heritage.

Italian public institutions should find, also at the regulatory level, the definitive confirmation of their role for the fulfillment of the tasks of Legal Deposit, bibliographic control, conservation, and access to documents, in whatever form they are recorded and transmitted. A simple investiture by law, in itself, does not qualify them to exercise this responsibility. In the absence of economic, instrumental, and human resources, no kind of governance is possible: the preservation of and permanent access to collective memory is a strategic national service, a challenge that can only be met if tackled collaboratively. A viable solution to these problems, one which is in line with current laws, is a public company to manage the services of conservation and permanent access to cultural heritage. This society should be shared by the bodies and institutions responsible for Legal Deposit: the State (Ministry of Cultural Heritage and its institutes), the Regions, the libraries of the Constitutional Bodies, which receive the deposit upon request of official publications of the State and other public bodies, and CNR – National Research Council, which receives the deposit of publications in the technical-scientific area. It would be important to establish a greater synergy with the governing bodies of SBN (Italian National Library Service), concerning the managing of digital resources within the SBN catalogue (i.e., the Italian Union Catalog), and AGID. It would be important to involve public players such as the Istituto Poligrafico e Zecca dello Stato, ISTAT (National Institute of Statistics), CRUI (Conference of Rectors of Italian Universities) as representatives of the world of academic research, but also, to mention materials of a different nature, RAI Teche. All these institutions are major producers of cultural information or public sources and bearers of similar instances and needs, as well as domain know-how. On this last point, partnership with private entities is essential and there are many candidates for this role. One possibility is to consolidate long-standing synergies with publishers or digital content distribution platforms: by way of example, Casalini Libri and MLOL. Then, we should turn our attention to companies that deal with the preservation and management of digital information: together with the aforementioned Internet Archive and the Wikimedia movement, whose institutional mission is similar

³⁴ Legislative Decree 7 March 2005, n. 82, art. 34 para. 1 bis, and the Decree of the President of the Council of Ministers 3 December 2013, art. 5 para. 3.

³⁵ The most important player in this field is certainly Internet Archive: <https://archive.org/about/>. For the same reason, a close collaboration with the Wikimedia Foundation, and with the national chapter Wikimedia Italy, would be highly desirable, especially on the side of the definition of tools and methods of access to preserved documentation.

to that of Memory Institutes, it is certainly equally important to finding forms of collaboration with the so-called Big Players active in this field, such as Google and Amazon. The constitution of a public company would respond more easily to the need to pool stable resources to make existing services more efficient, and would allow the procurement of resources, especially human and instrumental ones, in a manner more in keeping with the rapid development of technological services. Currently, the costs amounted to approximately € 500,000 per year. They had been calculated based on existing contracts and the experience gained in almost 10 years of Magazzini Digitali, net, however, of the investments already made over the years, in particular by BNCF, and those related to personnel and infrastructure currently of the depository institutions. There are also the costs of the traditional legal deposit. BNCR, for example, invests about € 265,000 per year in external support for the management of bibliographic control, made necessary by the severe shortage of staff that forces the use of external collaborators to carry out the service. These costs are those necessary to guarantee the minimum services for the management of the Legal deposit. The procurement of such substantial resources can no longer be solely tied to specific projects or targeted funding, as was the case in the early stages of testing and implementation of the service. A public company would have a stand-alone budget, established through the co-partnership of the various entities responsible for Legal Deposit,³⁶ and might be able to provide a share of commercial long-term preservation services to third parties beyond the provisions of Legal Deposit. A company with a public shareholding could recruit personnel more easily by selecting the professional skills not available in the roles of the public administration, or not available in sufficient quantity, albeit always with public evidence procedures. A company with public shareholding would have a flexible corporate architecture, allowing the acquisition of instrumental resources in the technological sphere, without partial or total interruption of services, and loss of know-how. The synergy between institutions, professionals, different skills is the only way that can guarantee relevant results, averting the failure of traditional library policies envisaged by Kalev Leetaru in the contribution published in 2017 on Forbes.com, with the significant title *Why Are Libraries Failing At Web Archiving And Are We Losing Our Digital History?*

³⁶ Regarding the participation of state institutions, resources should be stable and linked to a specific budget chapter.

References

- AIB Biblioteche e servizi nazionali, Commissione nazionale. 2020. «Il deposito legale regionale in Italia: stato dell'arte e risultati di una recente indagine». *AIB Studi* 59 (3): 423–52. doi:10.2426/aibstudi-12019.
- Alloatti, Franca. 2008. «L'attuazione della Legge 106 tra incognite e speranze». *Biblioteche oggi* 26 (1): 25–33.
- Bergamin, Giovanni. 2012. «La raccolta dei siti web: un test per il dominio “punto it”». *DigItalia* 2 (0): 170–74.
- . 2018. «Conservazione del patrimonio culturale digitale». In *60° Congresso nazionale AIB, 22-23 novembre 2018*.
- Bergamin, Giovanni, e Maurizio Messina. 2010. «Magazzini digitali: dal prototipo al servizio». *DigItalia* 2 (0): 144–53.
- Biblioteca Nazionale Centrale di Firenze. «Archiviabilità dei siti web». Accessed April 1st, 2021. <https://www.bncf.firenze.sbn.it/biblioteca/archiviabilita-dei-siti-web/>.
- «Copyright reform (archived) - European Bureau of Library Information and Documentation Associations (EBLIDA)». Accessed October 2, 2021. <http://www.eblida.org/about-eblida/archive/copyright-reform/>.
- Direzione generale Biblioteche e diritto d'autore. «Accordo MiBAC - Associazioni Editori». Accessed April 1st, 2021. <https://www.librari.beniculturali.it/it/notizie/notizia/4ee4df59-4819-11e1-88f7-b7fd06d12128/>.
- Floridi, Luciano, a c. di. 2015. *The Onlife Manifesto: Being Human in a Hyperconnected Era*. Cham: Springer International Publishing. doi:10.1007/978-3-319-04093-6.
- . 2017. *La quarta rivoluzione: Come l'infosfera sta trasformando il mondo*. Milano: Raffaello Cortina Editore.
- . 2018. «The good web. Some challenges and strategies to realise it». In *The Web Conference, Lyon, France 23-27 april 2018*.
- . 2020. *Pensare l'infosfera. La filosofia come design concettuale*. Milano: Raffaello Cortina Editore.
- Laakso, Mikael, Lisa Matthias, e Najko Jahn. 2021. «Open Is Not Forever: A Study of Vanished Open Access Journals». *Journal of the Association for Information Science and Technology* 72 (9): 1099–1112. doi:10.1002/asi.24460.
- «L'archivio storico de La Stampa sarà di nuovo consultabile entro metà febbraio 2021». 2020. *lastampa.it*. dicembre 14. Accessed October 2, 2021. <https://www.lastampa.it/rubriche/public-editor/2020/12/14/news/l-archivio-storico-de-la-stampa-sara-di-nuovo-consultabile-entro-meta-febbraio-2021-1.39659298>.
- «Le raccomandazioni della rete MAB per il recepimento della direttiva europea sul copyright». 2020. *AIB-WEB*. ottobre 18 Accessed October 2, 2021. <https://www.aib.it/attivita/mab/2020/85856-raccomandazioni-mab-recepimento-direttiva-europea-copyright/>.

Leetaru, Kalev. 2021. «Why Are Libraries Failing At Web Archiving And Are We Losing Our Digital History?» *Forbes*. Accessed April 1st, 2021. <https://www.forbes.com/sites/kalevleetaru/2017/03/27/why-are-libraries-failing-at-web-archiving-and-are-we-losing-our-digital-history/?sh=f22dacb6ecd4>.

Michetti, Giovanni. 2008. «Il modello OAIS». *DigItalia* 1 (0): 32–49.

«OAIS: entro breve la revisione». ParER - Polo archivistico dell'Emilia-Romagna. Accessed April 1st 2021. <https://poloarchivistico.regione.emilia-romagna.it/news-in-evidenza/oais-entro-breve-la-revisione>.

«PREMIS: Preservation Metadata Maintenance Activity (Library of Congress)». Accessed April 1st 2021. <http://www.loc.gov/standards/premis/>.

«Quasi un titolo ebook su due è nato con il self publishing. L'indagine Aie: grandi numeri, ma il mercato è meno di un terzo». 2016. *Prima online*. dicembre 10. Accessed October 2, 2021. <https://www.primaonline.it/2016/12/10/251136/quasi-un-titolo-ebook-su-due-e-nato-con-il-self-publishing-lindagine-aie-grandi-numeri-ma-il-mercato-e-meno-di-un-terzo/>.

«Razionalizzazione del Patrimonio ICT|Agenzia per l'Italia digitale». Accessed April 1st, 2021. <https://www.agid.gov.it/it/infrastrutture/razionalizzazione-del-patrimonio-ict>.

«Riappare online (con un curioso sottotitolo) l'archivio storico de L'Unità. Mistero sull'autore dell'operazione». 2018. *Prima online*. ottobre 16. Accessed October 2, 2021. <https://www.primaonline.it/2018/10/16/279189/riappare-online-con-un-curioso-sottotitolo-larchivio-storico-de-lunita-mistero-sullautore-delloperazione/>.

Rosenblatt, Bill. 2017. «Radium LCP Set to Launch». *Copyright and Technology*. marzo 11. Accessed October 2, 2021. <https://copyrightandtechnology.com/2017/03/11/radium-lcp-set-to-launch/>.

Storti, Chiara. 2019. «Storage, enhancement and preservation of doctoral dissertations in the experience “Magazzini digitali”: a contribution to research and access». *JLIS.it* 10 (1): 114–24. doi:10.4403/jlis.it-12526.

Tedeschini-Lalli, Mario. 2021. «Tecnologia Digitale Obsoleta, Un Secolo e Mezzo Di Storia a Rischio». *Medium*. febbraio 23. Accessed October 2, 2021. <https://tedeschini.medium.com/tecnologia-digitale-obsoleta-un-secolo-e-mezzo-di-storia-a-rischio-1bb75bf68c2f>.

Tremolada, Luca. 2019. «Quanti dati sono generati in un giorno?» Info Data (blog - Il Sole 24 ore), maggio 14. Accessed April 1st, 2021. <https://www.infodata.ilsole24ore.com/2019/05/14/quanti-dati-sono-generati-in-un-giorno/>.