



Grey Literature in our Era as a manner to build a new collective memory¹

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Abstract:

Since our century (Era) is digital, giant steps were taken in a few decades. “Access,” for example, became a keyword. A lot was done in that regard. Is it enough? No. Access has been the basis. We need significant usability and more comprehension. We needed paramount usability from the beginning. “Publishing Grey Literature in our Era (a digital one)” means the chance to be more and more known thanks to the enlargement of access and the addition of usability. For example, one of the ways we can do that is engagement in Citizen Science projects. It means Grey Literature must exit from insider groups. It means becoming more and more open to a broad public and closer to people. “Publishing Grey Literature in our Era” means taking more and more care of people. By investing in usability, we can reach the next step: comprehension. Some proposals:

- to launch some calls for projects regarding Grey Literature in Citizen Science (to enforce usability)
- to launch think tank groups that will examine the above project outputs to analyze the quality of comprehension, if any.

These proposals are ways to explore the chances our digital Era could give to Grey Literature to let GL be more and more known to build a new kind of memory.

Keywords: publishing Grey Literature; citizen science; access; usability; comprehension

Some definitions

When we wonder about publishing grey literature in our era, we can explore two ways:

- 1) to show some projects or anything already done.
- 2) to ask ourselves what the phrase could mean to support better those who chose the first way.

¹This paper explains and expands the video presentation “*Publishing grey literature in the digital century*” (<https://av.tib.eu/media/58307>) regarding to a poster contribution (https://textrelease.com/images/GL2022-4_Lombardi_Poster_resized.pdf) in the annual and international GL2022 conference (<https://www.textrelease.com/gl2022conference/program.html>). (Website last access: June 23, 2023).



The second way could be a starting point to engage the other issues better.

In this second way, we could think about our Era, the significance of publishing in this Era, and why a little terminology review is necessary, although known to those who have mastered the subject.

1. *The ‘digital Era’ (or, if we prefer, century) is the time we live in, characterized by people's ability to transmit information without restriction and access information in a way that was impossible in the past. It is also called the ‘informational Era’².*
2. *‘Grey literature’ (or gray literature) is materials and research produced by organizations outside the traditional commercial or academic publishing and distribution channels³.*
3. *‘Publishing’ means making information available to the public. In the past, this was done mainly by issuing printed copies of documents. Now there are many more options, such as websites, print, DVD, e-publications, and apps. Apart from ensuring value for money, the challenge is choosing channels that support a publication’s status and provenance and ensuring that the publication reaches the right audience⁴.*

The state of the art

As already written in the abstract, massive steps were taken in a few decades because our century was digital. It has been possible because digital runs faster and faster. So, we already know that “Access” became a keyword, and many actions were taken. We also know it is not yet enough because *Access* has been only the basis. From the beginning, we needed significant *Usability*. Now, we must add *Usability* as soon as possible, and only then can we concentrate on *Comprehension*. “*Publishing Grey Literature in our era*” means the chance to be more and more known thanks to the enlargement of *Access*, adding *Usability*, and investment in *Comprehension*. Grey Literature doesn’t mean unknown. Published Literature doesn’t mean known. Preprints are dealt with apart in the Grey Literature context.

Preprints⁵ are not the final version of the article presented to the public and are closer to Grey Literature. By the way, archiving in a repository is the way to let Grey Literature to become open; ‘if there are the conditions’, of course. Preprints belong to Grey Literature for definition; the act of archiving something in a repository belongs to the Open Access world if the document is archived as open to everyone⁶.

²Learn more in: The Degree of SMEs Digitalization in the Context of the European Digital United Market (<https://www.igi-global.com/chapter/the-degree-of-smes-digitalization-in-the-context-of-the-european-digital-united-market/286269>). More definitions here: <https://www.igi-global.com/dictionary/resource-sharing/7562> (Website last access: June 23, 2023).

³https://en.wikipedia.org/wiki/Grey_literature (Website last access: June 23, 2023).

⁴<https://www.nationalarchives.gov.uk/information-management/producing-official-publications/publishing-guidance/publishing/> (Website last access: June 23, 2023).

⁵Please, remember that:

- Preprint is a version of a scholarly or scientific paper that precedes formal peer review and publication in a peer-reviewed academic or scientific journal.
- Post-print (Accepted manuscript) is the final version after formal peer review and contains all revisions made during the peer-review process.
- The version of Record (VOR) is the final typeset and edited version of the journal article made available to the broad public declaring the paper “published.”

⁶Lombardi, Stefania. Grey Journal (TGJ); 17(2):77-80, 2021



It is essential to let Grey Literature and Published Literature more and more known. It means Grey Literature must exit from insider groups. The digital century could offer this chance thanks to communication skills and involvement in some (well-known) projects. For example, one of the ways we can do that is engagement in some Citizen Science projects. Why? Because Citizen Science means collaboration among two very different groups (scientists and citizens). Projects themselves are in partnership with others. So, Citizen Science projects are the collaboration to its top level.

CS has the potential to contribute to all 17 SDGs: already contributing or could contribute to at least one indicator per goal. CS is/could contribute to 40% of the environmental indicators (68% of which lack data). CS could contribute to 76 indicators overall (33%)⁷.

The Poster (Lombardi, Stefania, Giannini Silvia, Molino Anna) *Grey Literature in the Context of the UN 2030 Agenda*⁸ highlights the importance of the UN 2030 Agenda and, above all, Grey Literature in such a context. So, it is a consequence to deal with Citizen Science in a manner to let all 17 SDGs come true⁹. For example, dealing with its topics, a recent publication - *Scientific Contributions of citizen science applied to Rare or threatened animals*¹⁰ - states that research described in the paper quantified a larger spectrum of citizen science's contributions to monitor rare or endangered animals, including contributions to peer-reviewed publications, Grey Literature conservation measures. Almost one-half of the citizen science projects produced at least one peer-reviewed publication, 64% made at least one grey literature publication, and 64% resulted in at least one conservation measure. The paper also states that citizen science contributed substantially to knowledge advancement and conservation. Grey Literature helped such research. It is a consistent result if we consider how Citizen Science is underestimated in the number of scientific publications referencing it¹¹, maybe because Citizen Science is used more as a methodology. However, as stated above, Citizen Science needs Grey Literature and scholarly papers. Without Grey Literature, some Citizen Science and some research projects could be incomplete with a gap in research advancement. A similar hole could be verified in a science that is not open. So, Grey Literature is essential in some Citizen Science projects, and Open Science is necessary for science.

The databases

In the digital century, it is also possible to access Grey Literature thanks to some databases dealing with Grey Literature. An example above all is *GreyGuide*:

GreyGuide is the foremost portal and repository for resources in the field of grey literature. The GreyGuide seeks to capture proposed as well as published practices dealing with the supply and demand sides of grey literature. This initiative is undertaken by GreyNet International (content provider) and ISTI-CNR (service provider and system developer). The launch of the GreyGuide Repository took place in December 2013. And in 2014, the GreyGuide further developed as GreyNet's web access portal. Both GreyNet International and

⁷Wehn, Uta, Associate Professor of Water Innovation Studies, IHE Delft Institute for Water Education. Slide: *Data and knowledge co-creation and sharing: a Citizen Science perspective* (https://www.un.org/sites/un2.un.org/files/uta_wehn.pdf), (Website last access: June 23, 2023).

⁸More info here: <https://www.textrelease.com/gl2021posters/09lombardietalitaly.html> (Website last access: June 23, 2023).

⁹Pateman, Rachel, Heidi Tuhkanen, and Steve Cinderby. "Citizen Science and the Sustainable Development Goals in Low and Middle Income Country Cities." Sustainability. MDPI AG, August 24, 2021. doi:10.3390/su13179534.

Please, see also: Fraisl, Dilek, Jillian Campbell, Linda See, Uta Wehn, Jessica Wardlaw, Margaret Gold, Inian Moorthy, et al. "Mapping Citizen Science Contributions to the UN Sustainable Development Goals." Sustainability Science. Springer Science and Business Media LLC, July 2, 2020. doi:10.1007/s11625-020-00833-7.

¹⁰Fontaine, Amélie, Anouk Simard, Nicolas Brunet, and Kyle H. Elliott. "Scientific Contributions of Citizen Science Applied to Rare or Threatened Animals." Conservation Biology. Wiley, October 13, 2022. doi:10.1111/cobi.13976.

¹¹Bergerot, Benjamin. "The Citizen Science Paradox." Land. MDPI AG, July 26, 2022. doi:10.3390/land11081151.



*ISTI-CNR are involved in the process of migrating web-based content to the GreyGuide as well as including new content. Collections in the GreyGuide Repository are now accessible via combined search and browse capability and their metadata as well as full-text content can be harvested online. The GreyGuide Portal is host to a wide range of shared documents, links to affiliate repositories, and other web-based content in the field of grey literature*¹².

Limited to the Research products and in the specific category *Other Research Products*¹³, also OpenAire¹⁴ has a section related to Grey Literature. Another way is to search in some institutional portals hoping their Grey Literature is open to the wide public. And even if that were the case, it would mean consulting them individually. For a researcher, it's easier to obtain such information, consult Grey Literature in some research products, and add Grey Literature to some Citizen Science projects. It should also be possible for every citizen in every part of the world. It is essential to become more and more open to a broad public and closer to people, as Citizen Science already does. With this regard, "Publishing Grey Literature in our Era" could mean taking more and more care of people. By the way, some institutional Grey Literature documents are to be only in the institution's memory and must not go outside. Not every record can become well-known to the broad public. However, letting the other Grey Literature materials become increasingly renowned for keeping our literature memory is crucial.

The pandemic

A fascinating recent article¹⁵ discussed the importance of Grey Literature in a particular case of our digital Era: The covid-19 pandemic. The authors state new academic knowledge in journal articles is partly based on peer-reviewed research published in journals or books. They added academics may also draw from non-academic sources, such as the websites of organizations that publish credible information. Their article analyzes trends in the academic citation of this type of Grey Literature for 17 significant health, media, statistical, and international organizations, focusing on Covid-19. The results show a substantial and consistent trend in this type of Grey Literature citation. The results show substantial and steadily increasing sources for all 17 sites, with the most significant increases from 2019 to 2020. In 2020, Covid-19 citations to these websites were circulated for news organizations, the WHO, and the UK Office for National Statistics, ostensibly to obtain up-to-date information in the rapidly changing circumstances of the pandemic. Except for the United Nations, each organization's most cited URLs were not traditional Grey Literature. They were, however, other types, such as news, data, statistics, and general guidance. Covid-19 citations to most of these websites came mainly from medical research, usually for data and statistics on coronavirus. Other fields cited some non-medical websites extensively, as evidenced by studies in the social sciences (including psychology) that often cite UNESCO. The findings confirm that the Grey Literature from major websites became even more critical within academia during the pandemic, providing up-to-date information from credible sources despite the lack of academic peer review. A case among all is the above-cited preprints. In the authors' opinion, researchers, reviewers, and editors should accept that it is reasonable to cite this information when relevant, and evaluators should appreciate academic work supporting these non-academic findings. So, Grey Literature (including preprints) is increasing increasingly in the Digital Era. Our Era is the Internet Era. The Internet - the enormous public space humanity has known - has no sovereign, no one who can govern it. Therefore, it becomes necessary

¹²<http://greyguide.isti.cnr.it/index.php/about-us>, (Website last access: June 23, 2023).

¹³<https://explore.openaire.eu/>, (Website last access: June 23, 2023).

¹⁴<https://www.openaire.eu/>, (Website last access: June 23, 2023).

¹⁵Kousha, Kayvan, Mike Thelwall, and Matthew Bickley. "The High Scholarly Value of Grey Literature before and during Covid-19." *Scientometrics*. Springer Science and Business Media LLC, May 21, 2022. doi:10.1007/s11192-022-04398-3.



and urgent to answer some questions: can the world of the web have rules, although it is mobile and constantly changing? Should it find its institutional translation, its own 'constitution'? These questions have long accompanied discussions about the future of the Internet and have led some to consider going so far as to define rules as an unacceptable threat to its inherently libertarian nature. But the growing social and political relevance of the Internet - think of the new relationship between democracy and rights created by social networks and the whole debate on digital democracy - has brought the issue of Internet rights to the forefront.

Important rights

Stefano Rodotà¹⁶ wrote on the need to realize an *Internet Bill of Rights*, a document that covers the rights proper to the Internet, which have emerged as a result of the growing pervasiveness of the Net, and which concern three main issues:

- people's fundamental rights, which refer to the protection of privacy in a public environment;
- participation, that is, the safeguarding of the Internet as a tool for democratic participation;
- the relationship with economic freedom.

Rights are needed, therefore, in favor of Internet users. Rights that protect:

- access (the right to draw on knowledge, as well as to produce new knowledge);
- freedom of opinion; the security of not being discriminated against (what is called neutrality); anonymity;
- Privacy and the right to be forgotten. The Internet has changed, particularly the nature of the latter two rights.

Originating as the right of the bourgeois individual to exclude others from any invasion of their privacy, privacy protection has increasingly been structured as the right of every person to retain control over their data, wherever they may be. This shift from the original notion of privacy, anchored only in the criterion of excluding others and transformed into the right to track one's information and oppose interference, corresponds to a profound change in how privacy is invaded. Compared to the traditional and substantially limited instances of privacy infringements, today, breach or mere interference accompanies almost every moment of our daily lives, continuously *monitored*, kept under observation, and relentlessly recorded. This is why the Charter of Fundamental Rights of the European Union recognizes the right to protect personal data (art.8) *as an autonomous right, separate from the right to respect one's private and family life* (art.7).

In connection with the pervasiveness of the Net comes the need for protection that was once unthinkable, such as the right to be forgotten and the erasure of personal data. Thus, an ancient theme emerges in the new world of the Internet. From erasure of memory to imposition: yesterday the *damnatio memoriae*, today the obligation of remembrance. The relentless collective memory of the Internet, where the accumulation of our every trace makes us prisoners of a past destined never to pass, does not allow the construction of a personality free from the weight of memories, imposing a continuous social control by an endless array of people who can quickly know information about others. This gives rise to the need for adequate defenses, which takes the form of the demand for new rights: the right to be forgotten, the right not to know, not to be tracked, and to erase the chip by which personal data is collected. Let's remember the three significant words of the Digital Era. Having three

¹⁶Stefano, Rodotà. 2014. "Il mondo nella rete. Quali diritti, quali vincoli", Laterza, Roma-Bari.



keywords - *access*, *usability*, and *comprehension* – let us analyze them. *Access* is the most known keyword in this digital century. UN 2030 Agenda affirms:

*A world with equitable and universal ‘access’ to quality education at all levels, to health care and social protection, where physical, mental and social well-being are assured*¹⁷.

In the UN 2030 Agenda, *access* is an essential keyword to let “no one will be left behind”¹⁸.

In every context, we already know we must start from access. We must continue, anyway. The next step is *usability*. *Usability* is the use of *Access* at the highest level. It means people could know the existence of *Access* and how to use it. It implies cooperation and not only the chance for collaboration as *Access* does. Anyway, more than *Usability* is needed, too. By investing in *Usability*, we can reach the next step: *Comprehension*. Thanks to *Access* and *Usability* in the digital century, *Comprehension* is the chance to act with awareness. It means to do something; it means to do it together, too. If we use the keywords *Access* and *Usability* to improve people’s *Comprehension*, we are using the phrase *publishing grey literature in our Era* in the best way; we can become the needed change to make Grey Literature more known. Some proposals could be, for example:

- to launch some calls for projects regarding Grey Literature in Citizen Science (to enforce *Usability*)
- to launch think tank groups that will examine the above project outputs to analyze the quality of *Comprehension*, if any.

Citizen Science projects: structure

We can find some examples in the Citizen Science projects.

*‘Citizen science’ (CS) (similar to community science, crowd science, crowd-sourced science, civic science, participatory monitoring, or volunteer monitoring) is scientific research conducted with participation from the public (who are sometimes referred to as amateur/nonprofessional scientists)*¹⁹.

Above all, citizen science is the active involvement of non-scientists in scientific research, generally classified into three practices: contributory, collaborative, or co-created²⁰. Both contributive and collaborative projects are described as projects designed by scientists. In the case of contributory projects, citizens are specifically in charge of data collection²¹. Whereas collaborative projects offer

¹⁷The UN 2030 Agenda is about 35 pages, and access is cited on every page, starting from page 3 (<https://documents-dds-ny.un.org/doc/UNDOC/GEN/N15/291/89/PDF/N1529189.pdf?OpenElement>), (Website last access: June 23, 2023).

¹⁸This is the UN 2030 Agenda slogan, and we can find it on page 1 and page 2 of the Agenda.

¹⁹https://en.wikipedia.org/wiki/Citizen_science (Website last access: June 23, 2023); please, see also:

- Katrin, Vohland. “The Science of Citizen Science”. Cham, Switzerland. 2021. ISBN 978-3-030-58278-4. OCLC 1230459796.
- Gura, Trisha. “Citizen Science: Amateur Experts.” Nature. Springer Science and Business Media LLC, April 2013. doi:10.1038/nj7444-259a.

²⁰Bonney, Rick, Tina B. Phillips, Heidi L. Ballard, and Jody W. Enck. “Can Citizen Science Enhance Public Understanding of Science?” Public Understanding of Science. SAGE Publications, October 7, 2015. doi:10.1177/0963662515607406.

²¹Branchini, Simone, Francesco Pensa, Patrizia Neri, Bianca Maria Tonucci, Lisa Mattielli, Anna Collavo, Maria Elena Sillingardi, Corrado Piccinetti, Francesco Zaccanti, and Stefano Goffredo. “Using a Citizen Science Program to Monitor Coral Reef Biodiversity through Space and Time.” Biodiversity and Conservation. Springer Science and Business Media LLC, October 7, 2014. doi:10.1007/s10531-014-0810-7.

Please, see also:



additional participation, citizens, in addition to collecting data, can also help refine the design, analyze the data, or disseminate the results²². Co-creation is the most participatory model of the three, defined as projects “designed by scientists and members of the public working together and for which at least some of the public participants are actively involved in most or all stages of the scientific process”²³. Those considerations belong to the authors of a recent publication full of input and discussion points, as citizen science does²⁴. In co-creation citizen science practices, people are more likely to access their institutions of personal resources in Grey Literature. Those projects are collaboration in the highest way. In a recent manuscript submitted for publication²⁵, the topic is finding Grey Literature in some Citizen Science projects, for example.

For instance, in the citizen science project called *World Architecture Unlocked*²⁶, citizens are confronted with the collections of the *Courtauld Conway Library*, sorted, numbered, and digitized for the first time. There are 1.2 million images of buildings and monuments from around the world. The entire collection will be made publicly accessible online, free of charge. To ensure that as many people as possible can access the images, citizens’ help is needed to transcribe the information in each image. Each transcription allows a photograph to be searched based on the data recorded. This kind of citizen science contribution starts with Grey Literature (no-digitalized) and ends with Grey Literature (digitalized and more accessible).

In another citizen science project called *AI4Mars*²⁷, citizens act as teachers for some rovers on Mars through the machine learning process. The type of terrain is essential for moving around on Mars. With citizens’ contribution, researchers help rovers orient themselves and identify the types of terrain to avoid and those in which to move. In this case, citizens co-create Grey Literature for the citizen science project.

In the citizen science *DeVOTE*²⁸ project, voting is analyzed. In this project, voting refers to the importance of voting to citizens and what it means, including citizens’ definitions or cognition of vote

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- Meschini, Marta, Francesca Prati, Ginevra A. Simoncini, Valentina Airi, Erik Caroselli, Fiorella Prada, Chiara Marchini, et al. “Environmental Awareness Gained During a Citizen Science Project in Touristic Resorts Is Maintained After 3 Years Since Participation.” *Frontiers in Marine Science*. Frontiers Media SA, February 19, 2021. doi:10.3389/fmars.2021.584644.
 - Kohl, Holli A., Peder V. Nelson, John Pring, Kristen L. Weaver, Daniel M. Wiley, Ashley B. Danielson, Ryan M. Cooper, et al. “GLOBE Observer and the GO on a Trail Data Challenge: A Citizen Science Approach to Generating a Global Land Cover Land Use Reference Dataset.” *Frontiers in Climate*. Frontiers Media SA, April 22, 2021. doi:10.3389/fclim.2021.620497.

²²Baalbaki, Rima, Serine Haidar Ahmad, Wassim Kays, Salma N. Talhouk, Najat A. Saliba, and Mahmoud Al-Hindi. “Citizen Science in Lebanon—a Case Study for Groundwater Quality Monitoring.” *Royal Society Open Science*. The Royal Society, February 2019. doi:10.1098/rsos.181871.

²³Bonney, Rick, Tina B. Phillips, Heidi L. Ballard, and Jody W. Enck. “Can Citizen Science Enhance Public Understanding of Science?” *Public Understanding of Science*. SAGE Publications, October 7, 2015, p. 11. doi:10.1177/0963662515607406.

²⁴Gunnell, Jade, Yaela Golumbic, Tess Hayes, and Michelle Cooper. “Co-Created Citizen Science: Challenging Cultures and Practice in Scientific Research.” *Journal of Science Communication*. Sissa Medialab Srl, September 27, 2021. doi:10.22323/2.20050401.

²⁵Siebrand, Egbert, Simone Hermann Julia, Margaretha van Leersum Catharina. 2022. “Finding Grey Literature Concerning Citizen Science in the Domain of Healthcare and Well-Being in The Netherlands: A Binary Approach”. Manuscript submitted for publication.

²⁶<https://www.zooniverse.org/projects/courtaulddigital/world-architecture-unlocked>, (Website last access: July 19, 2023).

²⁷<https://www.zooniverse.org/projects/hiro-ono/ai4mars/about/research?language=en>, (Website last access: July 19, 2023).

²⁸ <https://www.votemeanings.eu/participate-now>, (Website last access: July 19, 2023).



and their motivations for voting or not voting. Also, citizens co-create Grey Literature with the difference that it may become published in some scientific paper.

Citizen Science platforms

CS platforms are websites that act as “collectors” of CS-related experiences, activities, and resources. In many cases, they take the form of portals that make different types of resources available to users. They have the task of facilitating the user in consulting materials and choosing the activities they can participate in. The main features of the platforms are:

- Create a user profile;
- Collect data and information visible to the rest of the community;
- Interact with other members of the community;
- monitoring one's activity that each user can perform;
- Sharing their findings and the data at their disposal that each user can make.

Some citizen science platforms are: *eu-citizen science*²⁹, *Zooniverse*³⁰, *iNaturalist*³¹, *SciStarter*³², *Nasa Science - Share the science – Citizen science*³³, *Adventure Scientists*³⁴.

Knowing the most important platforms and how to collaborate makes it possible to discover the links between citizen science and Grey Literature in the digital century to collaborate with more awareness³⁵.

The change is coming true. The difference is to use the collaboration of Citizen Science projects in Grey Literature. The change is to design Citizen Science projects on Grey Literature topics.

Academic libraries access three main types of Grey Literature: theses/discussions, annual reports, and catalogs. Libraries access theses/discussions due to a hierarchical/parent organizational policy. Grey Literature is set aside separately and prominently in libraries; however, the unavailability of an adequate collection development policy for Grey Literature emerged as the main problem of academic libraries, followed by budget constraints and lack of awareness. A t-test result in a study³⁶ revealed the need for various types of Grey Literature in libraries. It underscored the need to raise awareness of different kinds of Grey Literature in the library community. The study results are helpful for university authorities, academic libraries, and library professionals to manage Grey Literature better and increase its use in academic writing.

Wikiverse

The possibilities offered to libraries by the Wikiverse are still often underestimated. Diverse communities consult, customize, and enrich the available digital tools of the global family of portals daily. Both the use of libraries by members of these communities and the use of the Wikiverse by

²⁹ <https://eu-citizen.science/>, (Website last access: July 19, 2023).

³⁰ <https://www.zooniverse.org/>, (Website last access: July 19, 2023).

³¹ <https://www.inaturalist.org/>, (Website last access: July 19, 2023).

³² <https://scistarter.org/>, (Website last access: July 19, 2023).

³³ <https://science.nasa.gov/citizenscience>, (Website last access: July 19, 2023).

³⁴ <https://www.adventurescientists.org/our-volunteers.html>, (Website last access: July 19, 2023).

³⁵ On that regard, please see the following slides (in Italian): Giannini, Silvia, Stefania Lombardi, and Anna Molino. 2022. “La scienza con il cittadino. Come e perché collaborare alla creazione della scienza” [*Science with the citizen. How and why to collaborate in the creation of science*].

<https://openportal.isti.cnr.it/doc?id=people::80b6f1b8897b2b9130335a9450fae0e6>, (Website last access: July 19, 2023). Work done for Internet Festival, edition 2022.

³⁶ Ashiq, Murtaza, Azeem Akbar, Abdul Jabbar, and Qurat Ul Ain Saleem. 2021. “Gray Literature and Academic Libraries: How Do They Access, Use, Manage, and Cope with Gray Literature.” *Serials Review*. Informa UK Limited. doi:10.1080/00987913.2021.2018224.



libraries often remain a one-way street. Yet we can benefit from both sides of this potential: in scholarly communication, for greater visibility of digital collections, for crowdsourced indexing projects, for collaborative editions, for open bibliographic metadata, and for community building. A 2022 article³⁷ shows how Wikimedia portal tools and methods are used for scholarly communication in a state and university library for citizen science and professional research projects. Wikidata, Wikisource, Wikiversity, Wikimedia Commons, and Wikipedia serve as community-oriented publishing and communication sites for transcripts, visualizations, and software and as a Linked Open Data hub. In addition to the focus on content, methods are presented that, in the sense of digital information literacy, can enrich public libraries' educational and event offerings and help position libraries as essential players in the *information marketplace*.

Repositories

Another 2022 article³⁸ describes how open-access repositories are valuable channels for publishing Grey Scientific Literature. Technological development facilitates the communication of scientific knowledge, expanding distribution channels and significantly reducing the cost of transmitting investigations. New scholarly communication paradigms, such as open-access archives, must be exploited to provide free educational and research content to make scientific production globally accessible to society. The objective of this study is to illustrate the benefits of the model of scholarly communication through open access repositories, particularly the benefits for the scientific grey literature, using as some examples theses deposited under open access and distributed through Gredos, Institutional Repository of the University of Salamanca. We present the fundamentals, state-of-the-art trends, and benefits of open access, understood as a radical change in the scholarly communication system. Open access archives are a new way of disseminating grey academic literature to achieve maximum dissemination and visibility, increasing citation rates. Currently, the open access movement is sufficiently well established. Repositories are crucial in developing this movement, offering multiple benefits, such as visibility and citation, to authors, institutions, and the public. Doctoral dissertations disseminated through repositories increase their use, visibility, and citation rate while contributing to the public good.

Are we ready for some calls for proposals in that regard? Maybe some calls for proposals in that regard could be the next step to make more and more efficient *Publishing Grey Literature in our Era*, letting it more known and closest to people. If we are ready for this change, we can better present our projects in that regard and design and do new tasks. We can contribute to the unique significance of publishing grey literature in our Era. If we can contribute to the contemporary relevance of *Publishing Grey Literature in our Era*, we are also contributing to a definition of a new kind of memory: the memory of Grey Literature.

Eco

In *Vegetable Memory* [original: *Memoria Vegetale*]³⁹, the Italian writer Umberto Eco recounts the importance of the book since its appearance in terms of the evolution of civilizations and the birth of the great monotheistic religions. In his opinion, the book is life insurance, a slight anticipation of immortality. Being a bibliophile [books lover; Italian word] and a book collector does not require

³⁷Bemme, Jens, and Martin Munke. 2022. "Digitale Wissenschaftskommunikation Im Und Mit Dem Wikiversum. Erfahrungen Aus Der SLUB Dresden." *WissKom2022: Wie Macht Ihr Das? – Öffentliche Und Wissenschaftliche Bibliotheken Im Dialog*. PubPub. doi:10.21428/1bfadeb6.4112166b.

³⁸Ferreras-Fernández, Tránsito, Francisco J. García-Peñalvo, and José A. Merlo-Vega. 2015. "Open Access Repositories as Channel of Publication Scientific Grey Literature." *Proceedings of the 3rd International Conference on Technological Ecosystems for Enhancing Multiculturality*. ACM. doi:10.1145/2808580.2808643.

³⁹Umberto, Eco. 2011. "Memoria Vegetale", Bompiani Milano.



large amounts of capital; every person can take advantage of the stalls on the streets of every city and buy books, perhaps not as valuable as some fine first editions, but indeed exciting and increasingly so as the years go by. *Bibliophilia* [Love for books; Italian word] is the Love of the book object. Be careful, however, not to let it become a disease. In “Vegetable Memory,” with his usual sharpness, humor, and expertise, Eco reviewed some works, told anecdotes, drew a criterion of value, and guided people into the magical world of *bibliophilia*. Because Eco was not primarily addressing those already bibliophiles, but all others, potential book lovers, who are countless and may not yet know they are. Following Eco’s suggestions, like our elders, books are the custodians of all that historical memory that our regrettably short lives could never accumulate. Consulting them in the quiet, collected atmosphere of a library’s reading rooms or reading them in the privacy of our rooms, they become opportunities for valuable dialogue with people who continue to speak to us, through writing, beyond time. Shrouded in the aura of an ancient fascination. In both cases, our imagination makes centuries-long journeys back in history, to the most adventurous places of adolescent fiction, to the ever-lost and rediscovered places of fairy tale magic, or among the unpredictable imaginations of science fiction. Through reading, we continually draw essential sap to the durability of our memory and vital nourishment to the growth of our vision. Book after book grows in us the awareness that we have always lived. We were present on the island of St. Helena on windy evenings when Napoleon shivered with cold; in Rome during the Ides of March when Brutus and the conspirators stabbed Caesar. We observed and learned from the mistakes made by Hannibal at Capua, sighed not only for our lives but also for those of Dante, Petrarch, Tasso’s Angelica, and so on.

The memory (individual and collective) linked to books and Literature is expanded by the Grey Literature because of its peculiarity in recording the untold in published Literature.

This expansion was helped and carried out by the Open Science movement. In this scenario, the role of academic libraries is central⁴⁰.

Conclusions

Several insights and examples regarding libraries and citizen science emerge in the Grey Literature. For instance, Ayris and Ignat⁴¹, drawing on many cases and projects, offer guidance on how libraries can engage and provide leadership in the open science movement. The Grey Literature also includes examples of new trends in media-library collaboration in citizen science⁴², library-citizen science partnership⁴³, an account of open data, crowdsourcing, and citizen science⁴⁴, and recommendations on research data management and challenges in citizen science projects⁴⁵.

⁴⁰Kaarsted, Thomas, Oliver Blake, Kristian Hvidtfelt Nielsen, Berit Alving, Lotte Thing Rasmussen, Anne Kathrine Overgaard, and Sebrina Maj-Britt Hansen. 2023. “How European Research Libraries Can Support Citizen-Enhanced Open Science.” *Open Information Science*. Walter de Gruyter GmbH. doi:10.1515/opis-2022-0146.

⁴¹Ignat, Tiberius, Paul Ayris, Ignasi Labastida I Juan, Susan Reilly, Bertil Dorch, Thomas Kaarsted, and Anne Kathrine Overgaard. 2018. “Merry Work: Libraries and Citizen Science.” *Insights the UKSG Journal*. Ubiquity Press, Ltd. doi:10.1629/uksg.431.

⁴²Overgaard, Anne Kathrine, and Thomas Kaarsted. 2018. “A New Trend in Media and Library Collaboration within Citizen Science? The Case of ‘A Healthier Funen.’” *LIBER QUARTERLY*. Ligue des Bibliothèques Europeennes de Recherche. doi:10.18352/lq.10248.

⁴³Ignat, Tiberius, Darlene Cavalier, and Caroline Nickerson. 2019. “Citizen Science and Libraries: Waltzing towards a Collaboration.” *Mitteilungen Der Vereinigung Österreichischer Bibliothekarinnen Und Bibliothekare*. Association of Austrian Librarians. doi:10.31263/voebm.v72i2.3047.

⁴⁴Wiederkehr, Stefan. 2019. “Open Data for the Crowd: An Account of Citizen Science at ETH Library.” *LIBER Quarterly*. Ligue des Bibliothèques Europeennes de Recherche. doi:10.18352/lq.10294.

⁴⁵Hansen, Jitka Stilund, Signe Gadegaard, Karsten Kryger Hansen, Asger Væring Larsen, Søren Møller, Gertrud Stougård Thomsen, and Katrine Flindt Holmstrand. 2021. “Research Data Management Challenges in Citizen Science Projects and Recommendations for Library Support Services. A Scoping Review and Case Study.” *Data Science Journal*. Ubiquity Press, Ltd. doi:10.5334/dsj-2021-025.



These examples are given in a recent article⁴⁶; however, these are only a few examples and not a structured approach. Linking the Grey Literature to citizen science projects will let Grey Literature become FAIR (Findable, Accessible, Interoperable, Reusable), precisely as we say the data should be. The article mentioned repositories and various types of access to them as possible disseminators of Grey Literature. Citizen Science was mentioned as a likely means to increase the knowledge and possibilities around Grey Literature. Proposed solutions involve connections between these disseminators and amplifiers. In this way, the Grey Literature will become more structured and known. Moreover, the added linkages will contribute to the overall Literature memory.

⁴⁶Kaarsted, Thomas, Oliver Blake, Kristian Hvidtfelt Nielsen, Berit Alving, Lotte Thing Rasmussen, Anne Kathrine Overgaard, and Sebrina Maj-Britt Hansen. 2023. "How European Research Libraries Can Support Citizen-Enhanced Open Science." Open Information Science. Walter de Gruyter GmbH. doi:10.1515/opis-2022-0146.