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‘MAPPING CROSSROADS IN THE FIELD OF GREY LITERATURE’

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GreyNet

The Grey Journal

An International Journal on Grey Literature

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About TGJ

The Grey Journal is a flagship journal for the international grey literature community. It crosses continents, disciplines, and sectors both public and private. The Grey Journal not only deals with the topic of grey literature but is itself a document type classified as grey literature. It is akin to other grey serial publications, such as conference proceedings, reports, working papers, etc.



The Grey Journal is geared to Colleges and Schools of Library and Information Studies, as well as, information professionals, who produce, publish, process, manage, disseminate, and use grey literature e.g. researchers, editors, librarians, documentalists, archivists, journalists, intermediaries, etc.

About GreyNet

The Grey Literature Network Services was established in order to facilitate dialog, research, and communication between persons and organizations in the field of grey literature. GreyNet further seeks to identify and distribute information on and about grey literature in networked environments. Its main activities include the International Conference Series on Grey Literature, the creation and maintenance of web-based resources, a moderated Listserv, and The Grey Journal. GreyNet is also engaged in the development of distance learning courses for graduate and post-graduate students, as well as workshops and seminars for practitioners.

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Contents

'MAPPING CROSSROADS IN THE FIELD OF GREY LITERATURE'

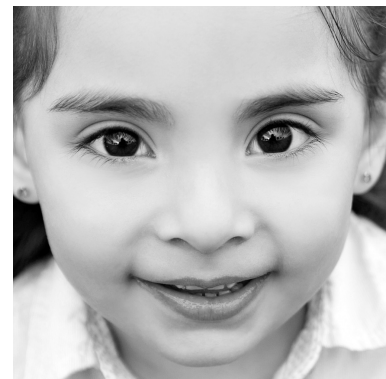
GreyNet's Focus on Science and Society: Attention to Research and Community	142
<i>Dominic Farace (Netherlands)</i>	
Paradigm Shifts in Government Information Education	145
<i>Debbie L. Rabina and Julia Robbins (United States)</i>	
'Grey Crossroads' in Cultural Heritage Preservation and Resource Management	160
<i>Luisa De Biagi and Roberto Puccinelli (Italy)</i>	
Policy Development for Grey Literature Resources: An Assessment of the Pisa Declaration	167
<i>Dobrica Savić (Austria), Dominic Farace and Jerry Frantzen (Netherlands); Stefania Biagioni and Carlo Carlesi (Italy); Herbert Gruttemeier and Christiane Stock (France)</i>	
Debate about Scientific Popularization in Russian Public Sphere based on Grey Literature Material	179
<i>Yuliya B. Balashova (Russia)</i>	
Data from "Linking full-text grey literature to underlying research and post-publication data: An Enhanced Publications Project 2011-2012"	182
<i>Dominic Farace and Jerry Frantzen (Netherlands); Plato L. Smith (United States)</i>	
Data from "The GreyLit Report: Understanding the Challenges of Finding Grey Literature "	186
<i>Danielle Aloia and Robin Naughton (United States)</i>	

Colophon	138
Editor's Note	141
On The Newsfront	
GL19 Conference Program – Nineteenth International Conference on Grey Literature, Rome, Italy on October 23-24, 2017	188
GL19 Call for Posters – 'Public Awareness and Access to Grey Literature' Submissions close on September 25, 2017	190
GL19 Conference Registration – <i>Early registration closes September 15, 2017</i>	191
Advertisement	
PsycEXTRA EBSCO	140
KISTI, Korea Institute of Science and Technology Information	178
ISTI-CNR, Istituto di Scienza e Tecnologie dell'Informazione "A. Faedo", Italy	192
Author Information	193
Notes for Contributors	195



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EDITOR'S NOTE

DATA PAPERS PROJECT

In 2011, GreyNet embarked on an Enhanced Publications Project with DANS, Data Archiving and Networked Services in an effort to circumvent the data versus document camps entrenched in grey literature communities. The results of that two year project served to incorporate in GreyNet's workflow the acquisition, indexing, and linking of research data with their full-text and accompanying metadata.

Recently, GreyNet discussed with a data management librarian from the University of Florida a proposed follow-up project dealing with data papers – a new document type within grey literature. Data papers are defined as scholarly publications of a searchable metadata document describing a particular online accessible dataset or a group of datasets published in accordance to standard academic practices. As such, data papers represent a scholarly communication approach to data sharing.

The outcome of that discussion has led to the formation of a project team with the twofold purpose of producing and publishing a set of data papers originating in the field of grey literature, and in so doing raise awareness to this new document type by demonstrating its value for library and information science.

The method of approach includes the construction of an online standardized template that encompasses a data paper, defining the population asked to complete the template, instruction and further contact with the authors/researchers during the course of the project, along with an analysis of the results.

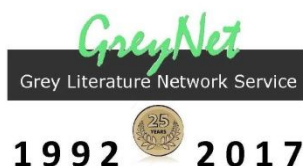
The anticipated outcome of the project would provide a tested template that could be used by other grey literature communities in the production of data papers. It would demonstrate how OA, DSA and FAIR principles are implemented and reinforced via data papers. And, it would further provide examples of how data citations can generate trusted bibliographic references.

The two closing articles in this issue are the first published data papers to appear in The Grey Journal.

Dominic Farace,
Journal Editor

GreyNet's Focus on Science and Society: Attention to Research and Community

Dominic Farace (Netherlands)



"The idea holds that extensive and protracted research would define an area of information science more than solely formulating a definition of grey literature."

Introduction

During the GL19 Program Committee meeting in Pisa, the subject of GreyNet's 25th Anniversary arose. One of the committee members suggested that an article marking the occasion would be appropriate and the others appeared keen to the idea. Weeks later back at the office in Amsterdam, I recalled the Pisa meeting and the suggestion of an article. My thoughts first hit upon GreyNet's Business Report¹, which provides an up-to-date and comprehensive overview of the organization. However, skimming through its twenty odd pages, it became evident that a business report would not make for a fitting article and was certainly not what was intended. Leaving the task in my things to do folder for another handful of weeks, I found myself on the southern coast of Crete, my get away for more than three decades. I was patiently waiting for an inspirational approach to what had become an accepted assignment – an article that would capture both the attention and interest of an audience of information professionals.

Throughout the past twenty five years, the Grey Literature Network Service has witnessed sustained development due in part, if I may say, to enthusiastic and committed leadership, a strong conviction in the uses and applications of grey literature for science and society; and to a community of dedicated researchers and authors willing to share the results of scholarly work well beyond their own institution. For the next few days, the challenge to comply with what was initially taken as a straightforward proposal became a veritable task. While there was no lack of material that could be readily tapped, there was still the choice of framework and selection of relevant content appropriate for an audience of peers.

I could, for example, use GreyNet's mission statement and demonstrate how it has over the past quarter century fueled research, publication, open access, education, and public awareness to grey literature. Or, I could compile a timeline and discuss GreyNet's milestones and deliverables. I could also trace back through the years GreyNet's research projects based on its own collections and resources, or I could focus on the contributions made by GreyNet's Award Recipients² and demonstrate how their work has impacted GreyNet and the field of grey literature.

All four such inroads to GreyNet can in fact be extracted from the business report, which was considered less appropriate for the assignment. Caught in a moment of indecision, I realized that perhaps I should veer from any systematic review and instead address the readers as colleagues who are experienced in the field of information and who might be more interested in real situations and challenges faced by the organization in the 25 year period and the responses to them. Yes, without further hesitation the first point to convey would deal with my idea for an international grey literature network service.

The Focus

Six years prior to the founding of GreyNet, I headed a department of documentary information and a national reports center for grey literature in the social sciences. During that same time period, I also served on the technical committee for the European Association for Grey Literature Exploitation. On occasion I tried my hand at describing my work and formulating a direction that should be taken for the future of grey literature. The focus was foremost on a program of research and its vehicle would be an international conference series on grey literature³. In this way, the results of research could be collected and maintained in a knowledge base allowing for further use and application for science and society. The idea holds that extensive and protracted research would define an area of information science more than solely formulating a definition of grey literature. Granted definitions drive research, it is the results of research that would come to define the field of grey literature and its place among other information sciences.

Early Success

GreyNet met with early success. The First International Conference on Grey Literature booked over 200 delegates from countries worldwide. Newsletters, program books, conference proceedings, annotated bibliographies, an international guide to persons and organizations in grey literature as well as a website hosted by the Netherlands Royal Library were among its early publications. The Second GL-Conference was convened in Washington D.C. establishing the transatlantic character for the series and the Third GL-Conference was hosted by the European Commission in Luxembourg.

What appeared to be a truly successful venture came to a sudden standstill in the first quarter of 1998. Reserves were depleted and since the conference series took place only every other year, income to sustain the organization until the next stateside conference was insufficient.

Trial and Error

Often in the management of an enterprise, errors that are not identified in time are difficult to correct and threaten its very existence. Due to an increasing lack of funds, GreyNet could but sustain its existing information products and services; however, it lacked the ability to respond to opportunities that presented themselves on a rapidly changing information landscape.

To turn the tide and secure a way forward for the organization as well as the GL-Conference Series a major partner or buyer was determined the only viable option. GreyNet published via its already formidable distribution list a call for tenders, which met with two serious contenders – both publishers. After months of negotiations, GreyNet was bought by MCB University Press; however its operational management and location remained in Amsterdam until the Spring of 2000, when I tendered my resignation as Head of GreyNet owing to irreconcilable differences in the way of doing business. Within a couple of months of my resignation, MCB provided notice that they discontinued GreyNet. Owing to an acquisition agreement that the publisher upheld, I was unable to deal in grey literature until three years from the date of its signing.

Relaunch

One of my earlier published articles dealing with grey literature was titled “Rise of the Phoenix: A Review of New Forms and Exploitations of Grey Literature”⁴. This article took on an added meaning six years after its publication, when in 2003 I relaunched GreyNet and the GL-Conference Series. The original focus I had for GreyNet ten years earlier was in no way diminished. A program of research remained first and foremost and the continuation of the GL-Conference Series stayed its driving force.

Luck or serendipity should never be discounted in any venture. That which prompted the relaunch of GreyNet was the ability to recover its original domain name greynet.org⁵, which now for the past fourteen years is powered by TextRelease.

Recovery of the domain name implied that all earlier content accessible via internet could be recovered. Furthermore, the GL-Conference Series and its concomitant Proceedings⁶ and Program Books⁷ could regain their original ISSN registrations allowing for continuity in both collections. With these key components in place, the call for papers for the Fifth International Conference on Grey Literature was published.

Among a number of changes that pursued after GreyNet's relaunch included a business plan that would engage other revenue streams besides the conference series. These came to include membership fees and the launch of a journal on grey literature⁸ alongside the sale of conference proceedings and other in-house publications. The GL-Conference Series became an annual event instead of every other year; and, two workshop series: GreyForum⁹ and GreyWorks¹⁰ were introduced – signaling GreyNet's commitment to education and training in the field of grey literature.

In Step with Technological Developments

During the three year period GreyNet was inactive, much progress had taken place in the open access movement, which the organization would now have to move in step with. The development and maintenance of institutional and federated repositories was another area that challenged GreyNet. The rise of social media presented new and promising channels for public awareness not to mention the upcoming use and application of visualization techniques. These and other developments driven by technology have since GreyNet's relaunch become integrated in its workflow. Together, these provide a considerable range of sustained and enhanced information resources made possible through the expertise and investments of GreyNet's service providers, four-fold committees, their chairs and active members.

On the Horizon

Marking GreyNet's pursuits and accomplishments over the past quarter century has become for me less a walk down memory lane and more a wake-up call as to the future of the organization. Financially, GreyNet has maintained a stable track record for a number of consecutive years. The repositories housing its content are secure, its collections continue to grow, and statistics demonstrate a steady increase in use. GreyNet's associate memberships, partnerships, and agreements with abstract and indexing services as well as a licensing agent are longstanding. And, next year will mark the 20th edition of the GL-Conference Series.

Nevertheless, while the situation today cannot be compared with the crisis year almost two decades ago, there is still another significant challenge facing GreyNet – its management hand-off. Perhaps the way forward will require another call for tenders in search of a major partner/buyer. It may also be possible that one of the associate members will pursue the registration of GreyNet as an international association. In either case, current management is committed to work with that party towards a constructive transition benefiting the hundreds of authors, researchers and other information professionals and practitioners in the grey literature community.

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- ⁵ GreyNet, Grey Literature Network Service <http://www.greynet.org/>
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- ⁷ GL Conference Series – Program Books, ISSN 1385-2308 <http://greyguide.isti.cnr.it/gl-program-books-2003/>
- ⁸ The Grey Journal: An international journal on grey literature – ISSN 1574-1796 www.textrelease.com/publications/journal.html
- ⁹ GreyForum Series – ISSN 2213-5735 <http://www.greynet.org/greyforumseries.html>
- ¹⁰ GreyWorks Summer Series – ISSN 2211-1425 <http://www.greynet.org/researchandeducation/workshops.html>

Paradigm shifts in government information education

Debbie L. Rabina and Julia Robbins (United States)

Abstract:

Building on a 1986 article by John V. Richardson, we aim to identify paradigm shifts that occurred in teaching government information since 1986 and their implications for instructors and practitioners.

This study relies on three sources of evidence: a bibliography that updates the original list published in Richardson's article in 1986; an analysis of textbook use as reflected in syllabi of government information courses with a secondary use of syllabi for purposes of content analysis; and a survey of instructors in government information education in ALA-accredited masters programs.

Findings: In the period covered here, 1986-2016, the paradigm of teaching government information has further shifted to reflect changes in increased availability of data sources, of digital collections, and of educational sources beyond the textbook.

- *Textbooks: twelve new titles have been published, some of which are traditional textbooks, while the remainder are a combination of annotated bibliographies and collected articles.*
- *Survey: government information course offerings are robust, focus on common areas and are more likely to be taught in online or hybrid environments, and almost half the instructors are full time faculty.*
- *Syllabi Analysis: Most courses cover the federal government, executive branch, Office of the President and statistical information. Many teach search strategies and user-centered approaches and Federal Depository Library Program management. Some include various specialized sources such as legislative sources, SciTech information, regulatory law or Geospatial Information Systems and all courses cover some degree of specialized sources, but none cover all.*

The area of this study, government information instruction, the methodology, paradigm shifts, and the methods, particularly the place of the textbook in library instruction, are all under-studied. Few studies attempt to analyze how textbook design and use affect professional educations and qualifications. This study sheds a helpful light on the current state of education in the field of government information vis-à-vis changes in the field.

Keywords: Government Information, LIS instruction, Paradigm Shifts

Introduction

In 1986 John V. Richardson (hereafter Richardson or JVR) published a highly regarded article (making the author that year's ALISE Research Paper Competition Prize Winner) titled *Paradigmatic shifts in the teaching of government publications, 1895- 1985* (1986).

In his historical survey Richardson reviewed nearly 100 years of teaching government publications as part of Library and Information Science (LIS) education, and applied Thomas Kuhn's (1962, reprint 1996) notion of textbook as "normal science" to trace paradigmatic shifts in the teaching of government publications in LIS.

Richardson analyzed 22 textbooks (editions and printings) and identified the essential paradigm for teaching government publications. He focused on three elements of the paradigm shift: *scope of concern* refers to the boundaries of the field of study – what individuals should know in order to claim competency in that field; *level of government* looks at which of various levels of government (from international to local government) are included; and *source of issue* looks at the organizing principles of textbooks and to what extent the textbook structures its discussion of government publications by their agency origin.

Richardson identified the changes in textbooks - and therefore in the field of education in government publications - that occurred over a ninety-year period (1895-1985). In his article he identified the shifts in these three elements during that period, proposing that the texts reflected changes. He suggested that there was a change in the scope of concern from strictly library to library and information science, a change in the level of government

publications emphasized in the texts from mostly federal publications to a mix of federal, state and local government information, and a change in the source of the information in the texts from bibliographic essays or pure bibliography (i.e. stating what agencies produced which documents) to a thematic textbook analysis more like a history text that begins to overlay the subject-content approach over the publisher/agency approach.

Following the occasion of the 30th anniversary of Richardson's article, and the 50th anniversary of Kuhn's, we offer a reexamination of Richardson's analysis to see if further paradigmatic shifts in the teaching of government publications have occurred in all elements he describes. We mirror, with some modifications, Richardson's structure and methods as we examine the tenets of formal instruction in the area of government information, to identify what, if any, further paradigmatic shifts have occurred.

The primary purpose of this paper is to identify paradigm shifts that occurred in teaching government information since 1986 and their implication for instructors and practitioners. We achieve this by following Richardson's basic structure (1986, p.250): Identifying the established paradigm; describing the paradigmatic shift in the field since 1986; and discussing the implications for instructors and practitioners.

This study relies on three sources of evidence: a bibliography that updates the original list published in 1986, and serves independently to continue Richardson's historiography of the field; an analysis of syllabi of government information courses; and a survey of instructors in government information instruction in ALA-accredited masters programs in library education. Data was collected during Oct/Nov 2015 through surveys and documents. This expands on Richardson's reliance solely on textbooks, but it is a necessary expansion. It reflects the changes in research methods that occurred since Richardson's writing in 1986, particularly the availability of online syllabi, and the advent of online research tools such as questionnaires. Each source is intended to offer perspectives on the existence (or lack) of a paradigm shift in the teaching of government information.

Our results indicate that in the quarter century that has passed since Richardson's study, further paradigmatic shifts in the teaching of government publications have occurred in all areas he describes. Extending Richardson's framework, these can be defined as (1) scope of concern—transition from print to digital collections; (2) level of government—growing emphasis on international information and on local government information, particularly in the e-government context; and (3) source of issue— transition from collections that reflect government agency structures to aggregate collections and discovery tools that are agency-blind.

The authors contend that the recent paradigmatic shifts in the government publications landscape open up new opportunities for adopting a cross-curricular approach to teaching government information.

Literature Review

Library science education is subject to some of the same trends that affect higher education in general. The function of any specialized higher education is to ensure that qualified people can find and effectively work at useful jobs. Libraries are shifting, contracting, and changing as technology changes society. Library education, then, is working to make sure that graduates are equipped with the skills and training to cope with those changes. Lowry (2002) looked at the paradigm shift concept Kuhn discussed, and applied it to library education in general. Lowry suggests that the shift has come not just in the library, but also in the organization and delivery of information overall. Similarly, Stachokas (2015) suggests that historically, librarianship has been shaped by the physical resource, the book. He argues that librarians need to accept a "paradigm shift" towards electronic resources and that library education should foster the skill sets that librarians will need to provide patrons with information in the new paradigm. In no other field of library education is this truer than in government information.

During the late 1970's, and continuing into the 1980's, a number of articles, including, of course, Richardson's own, detailed the difficulties of preparing government document librarians for their work. Some advocated for changes in formal post-graduate studies from a one-year program model to a longer program with more education on government documents. White(1986). Some suggested continuing education for librarians. White; Cross

(1989). In general, however, articles explicitly treating the mechanics and underpinnings of teaching government information courses are sparse in academic publications. Articles citing Kuhn's "paradigm shift" theories, on the other hand, are abundant (a recent Google Scholar search of Kuhn's book found that the 2012 50th anniversary edition had been cited 89,242 times).

More scholarly attention in literature about library science instruction is focused on research methods. Data-driven assessment is used more frequently in the literature. Content analysis of LIS instruction syllabi is one data-driven method for assessing teaching impact of teaching materials. For one study Saunders (2015), the goal was to see how well library and information science programs prepare their students for work as instruction librarians – an increasingly important part of academic librarianship. Saunders looked at syllabi to quantify the incidence of required textbooks in the field of instruction librarianship. One textbook was cited as required in 12 of the 29 courses reviewed by the author – along with a plethora of additional eleven books. All courses also included assigned readings in articles and book chapters. A similar data-driven approach was used in a study of undergraduate education to analyze the teaching impact of a publication. Kousha (2015). The authors of that study text-mined online copies of course syllabi, as an alternative to metrics such as sales figures or citations in scholarly journals. While this kind of analysis of textbook use could shed light on the perception of the utility of textbooks by the professors of government information, the authors chose not to conduct this kind of purely quantitative analysis.

Surveys are a flexible research method. While data-driven when involving larger numbers of participants, surveys allow analysis of trends in library education by exploring individual instructors' experience. Yang (2001) and Yelinek (2009) used surveys in articles that addressed the dearth of formal training for librarians in government documents, either in undergraduate or in library schools. Yang surveyed government documents librarians and determined that over half had graduated from library school more than 15 years before their appointment as government documents librarians. Yelinek cited a 1989 survey of librarians who had been assigned government documents tasks, which found that almost none of them had undergraduate education that would give them any expertise in government documents (history, economics, law, political science). In a survey conducted for their own article, the Yelinek article's authors asked questions regarding the length of time 33 respondents had been serving as government documents librarians. More than half were serving as "temporary" government documents librarians, and over half had graduated within the last four years from library school. That result contrasted with the librarians surveyed by Yang, eight years before. In both articles, the authors highlight the effect of swiftly changing library employment trends on library information students. Those trends continue to make planning difficult for library and information graduate programs.

Personal experience provides another vantage point for study. In a discussion of distance learning for a government information course, Sherry DeDecker and Eric Forte addressed the process they went through as they decided whether or not to require a textbook for their online course. Forte (2005). They described the decision of "whether to use a text, and if so, which one" as "one of the most difficult decisions we had to make." They decided not to use one, because they sought more flexibility in designing the class. They also pointed out cost as a reason not to require a textbook. However, they cited the textbooks *Tapping the Government Grapevine* (Judith Schiek Robinson, Oryx Press, 1998) and *United States Government Information: Policies and Sources* (Peter Hernon et al., Libraries Unlimited, 2002) as excellent texts.

Methodology and theoretical approach

In his book *The structure of scientific revolutions*, Kuhn (1996) made an argument for the evolution of science and scientific theory as a series of "paradigm shifts." Kuhn proposed a theory for the evolution of scientific thought: that scientific ideas exist in a social and historical context that allows them to make sense, and that new scientific ideas often emerge as a sudden shift in how scientific facts are viewed – a shift that is a result of its historical and scientific context. Weinberger (2012). Weinberger summarizes the paradox and the captivating power of Kuhn's theory as "Our old paradigm of truth is no longer up to

the task, but we don't yet have a new one to replace it." But Weinberger also reminds us that Kuhn saw scientific paradigms as the good scientific practices that researchers apply in their daily work.

Writings about a given science evolve over time. Textbooks "expound the body of accepted theory, illustrate many or all of its successful applications, and compare these applications with exemplary observations and experiments." Kuhn at 10. The textbook reflects "normal science," which Kuhn describes as "research based on one or more past scientific achievements...that some particular scientific community acknowledges for a time as supplying the foundation for its further practice." Kuhn at 10. Kuhn highlights the way a textbook frees the scientist from having to explain her science from its foundation, starting from first principles. The individual scientist can concentrate on "the subtlest and most esoteric aspects" of the field of study. Kuhn at 20. The textbook embodies the paradigm in which the scientist works. In fact, the very emergence of such a paradigm enables the evolution of a profession by a creating a new, "more rigid" definition of a field of study. Kuhn at 19.

For Richardson, adapting Kuhn's theory of paradigmatic shifts in science to the field of library science was a way to better understand and improve library education. He chose, as his publication date, the centennial of the establishment of a school of library science by Melvil Dewey in Albany in 1896. Richardson described his own interest in textbooks as a way to "identify the established paradigm; to describe paradigmatic shifts in the field over time, and to discuss the implications for instructors and for practitioners." (JVR at 250).

Thirty years after Richardson's article, the field of library science in general, the field of library education, and in particular the field of government information education, are all in a period of great upheaval and change. Since Richardson's article was written, nineteen accredited library education programs have closed (American Library Association). Enormous changes have occurred in the way government information is published and found. The rapid growth of internet-based research has fundamentally changed the way researchers work, and thus the work of the librarians who help them with that work. For us, it is again a fruitful time to look at library education in the area of government publications through the study of textbooks and how they are or are not used in library education programs.

The Context of Our Study

As in 1986, course offerings in government information continue in library and information science programs in the United States. We define library and information science programs as fifty-nine master's level programs accredited by the American Library Association (ALA 2016) or the twenty-five members of the iSchool Caucus (Directory).

Richardson's observation that little academic research existed in the literature about the role of textbooks in the field of government information education continues to hold true, the exceptions being Richardson's work and a handful of book reviews.

Yet, textbooks continue to be published in this area of instruction. Since 1986 fifteen new editions and eight new titles were added to the corpus of textbooks in the area for government information instruction (see *Findings* below). As Bates (1999) explained, we [information scientists] need to become more fully conscious of the research and practice paradigm from which we operate. A field's paradigm, in Kuhn's (1970) sense, consists of the core body of theory and methodology of a field, along with an associated world-view regarding the phenomena of interest to the field. The explicit paradigm of information science has been very well described before. Bates reminds us that

...a field's paradigm is much more than the explicit theoretical model it works from... Much of the paradigm of any field lurks below the water line, largely unconscious and unarticulated, even by its practitioners... Information scientists need to become more conscious of the thought world we are operating out of, so that we can communicate it more rapidly and effectively to large numbers of new people, and so that we can continue to influence the future of information science in the 21st century. (1999, 1043).

Methods

This study relies on three sources of evidence: a bibliography that updates the original list

published in 1986; an analysis of textbook use as reflected in syllabi of government information courses; and secondary use of syllabi for purposes of content analysis; and a survey of instructors in government information instruction in ALA-accredited masters programs in library education.

This expands Richardson's reliance only on textbooks, but it is a necessary expansion. Each source is intended to offer perspectives on the existence or lack thereof, of a paradigm shift in the teaching of government information. The addition of the second and third sources may represent a paradigm shift in itself, since for Richardson, as for Kuhn, the textbook represented the scope of the field. Classroom experience and literature both confirm the decline on the textbook for reasons varying from cost to relevance (Howard 2008; Sandoval 2012; Conn 2015). In addition, studies in the field on LIS education typically include syllabi and survey results as their sources of data (Pattueli 2008).

In addition, the corresponding author has 20 years of experience in research and instruction in government information, is involved in library school accreditation, and participates in a number of professional associations on the topic and has a strong sense of the current landscape of library school instruction in government information.

Richardson indicated that based on his research, syllabi are secondary and ephemeral. (JVR note 6). While syllabi are still secondary, they are less ephemeral today because they are often available electronically for review by prospective and enrolled students. We used the syllabi to identify materials used in courses. The increase in the use of articles exclusively to study the field of government information reflects the quickly evolving world of research in the internet age. In fact, Kuhn predicted the outcome of the evolution of a field of study: advances in the study of the more esoteric aspects would be published in the form of smaller papers, published to specialist groups "whose knowledge of a shared paradigm can be assumed and who prove to be the only ones able to read the papers addressed to them." (Kuhn at 20). In the context of academic and open access publishing issues emerging today, then, a study of what and whether textbooks are used in a given field of study (and how they are used) can help us see the evolution of science in that field.

Bibliography

We analyze the continuing evolution of textbooks published in the field of government information, starting with the eleven textbooks cited by Richardson (some of which continued to be published in new editions) and adding others published since 1985. The list is selective and does not include books that are of narrow focus (such as legal resources only, e.g. Herman 2015). Some books that we designate as textbooks are perhaps more properly described as guides for government information practitioners, but are used as textbooks in courses (e.g. *Robinson*). While Richardson was able to pinpoint the biographical influences on the authors of the textbooks he identified, we did not conduct network analysis on the authors to learn of possible influences. We provided profiles of textbook authors available from book jackets or public website and confirmed the details with the authors (with the exception of J. Morehead who passed away), who were given a chance to add/amend their biographical profile. Richardson's article also provides some historiography of government information textbooks and that of the field as a whole. Continuing Richardson's bibliography serves here not only as a means to identify paradigm shifts, but is also a goal in itself as it contributes to the historiography of the field.

Richardson latest item was dated 1983; we expanded the search from 1980 to present. The authors' personal libraries provided a good many of the textbooks added, and the rest were identified through OCLC/Firstsearch or were mentioned in the survey results or recommended by colleagues. All books were physically available to the authors. The authors added annotations, and biographical notes were either compiled from public sources (such as university staff profiles) or provided by the authors or their publishers.

Survey of instructors

We contacted 28 individuals known to teach government information courses and sent the survey directly to them. In addition, we sent the survey out on the listserv GovDoc-L, which is the primary listserv for practitioners and teachers of government information. We circulated the survey in late 2015 (Oct/Nov), and compiled the results through January 2016. We received 26 responses.

Syllabi

We gathered syllabi in two ways: by searching online through the curriculum information for different ALA-accredited programs, and by soliciting the syllabi directly from professors who teach government information and by inviting participation through a professional listserv GovDoc-L. The 28 syllabi range from courses taught between AY2012/13 and AY2015/16 in 21 different programs. We coded 14 syllabi from the AY2013/14-2015/16. The corresponding author coded syllabi manually.

Findings

Below follows a description of the findings for the data sources, as well as a brief discussion

Findings.1 Textbooks

We updated Richardson's 1986 list with a total of eight new titles. Some are traditional textbooks, while the remainder are a combination of annotated bibliographies and collected articles. In addition, our survey also solicited questions about whether instructors assigned a textbook in their course, and which ones. We found that textbooks were used in 70.8% of the classes (with some courses assigning more than one book), as described in Table 1.

Title	Currently use
Eric J. Forte, Cassandra J. Hartnett, and Andrea L. Sevetson	66%
Andrea M. Morrison, ed. (2008)	5%
United States Government Information: Policies and Sources, Peter Hernon, Harold Relyea, Robert E. Dugan and Joan F. Cheverie (2002)	5%
Tapping the Government Grapevine: The User-friendly Guide to U.S. Government Information Sources, Judith Schiek Robinson (1998)	5%

Table 1

The updated list of textbooks since 1986 is arranged chronologically from earliest to most recent. Multiple and variants are grouped together. The list includes the following titles:

SEARS, J. L., & MOODY, M. K. (1985/86, 1994, 2001). *USING GOVERNMENT INFORMATION SOURCES: ELECTRONIC AND PRINT*. PHOENIX, AZ: ORYX PRESS.

This book, like Robinson below, is characteristic of the transition period identified by Richardson as the third paradigmatic shift – the transition from bibliographical essays and annotated bibliographies to the thematic textbook approach. While still providing extensive annotation to sources, each chapter also provides background information and search strategies and tips.

Jean L. Sears was formerly Head Documents Librarian, King Library, Miami University, Oxford, Ohio. Marilyn K. Moody worked with Jean L. Sears at Miami University of Ohio, and at Iowa State University in Ames. Her most recent position prior to retirement was Dean, University Library, and Portland State University.

ROBINSON, J. S. (1988, 1998). *TAPPING THE GOVERNMENT GRAPEVINE: THE USER FRIENDLY GUIDE TO U.S. GOVERNMENT INFORMATION SOURCES* (3D ED.). PHOENIX, ARIZ: ORYX PRESS.

This book, part directory part textbook, was a popular choice at time of publication for both instructors and practitioners due to the emphasis on non-print formats such as government websites and CD-ROMs. It filled a need at a time when online resources were new and Google was a decade away from the first edition. It is perhaps no coincidence that 1998, the birth of Google, was the year of the last edition of this book. The chapters' titles are arranged by agency/topic and all follow the same structure. Chapters open with brief what, where, why and how for each topic, and next lists sources in a style of an annotated bibliography. Proprietary sources feature heavily and often with no distinction from public domain sources. The book did have a set of loyal fans and 60% of survey respondents reported assigning it as a textbook in the past (we did not ask if the respondent was teaching during the heyday of this book, so the % can only get higher if that factor is considered).

Judith Schiek Robinson is Professor Emerita at the Department of Library Information and Studies, Graduate School of Education, University at Buffalo.

MCCLURE, C.R., HERNON, P. & RELYEA H. (1989) *UNITED STATES GOVERNMENT INFORMATION POLICIES: VIEWS AND PERSPECTIVE*. NORWOOD, NJ: ABLEX PUB.

HERNON, P., MCCLURE, C. R., & RELYEA, H. (1996). *FEDERAL INFORMATION POLICIES IN THE 1990S: VIEWS AND PERSPECTIVES*. NORWOOD, NJ: ABLEX PUB.

HERNON, P., RELYEA, H., DUGAN, R. E., & CHEVERIE, J. F. (2002). *UNITED STATES GOVERNMENT INFORMATION: POLICIES AND SOURCES*. WESTPORT, CT: LIBRARIES UNLIMITED. (WITH CD-ROM)

Throughout the 1990s Peter Hernon continued to collaborate with other academics and practitioners on a series of books that continue the 1984 book reviewed by Richardson, *Public access to government information: issues, trends, and strategies*. While most other authors focus on either sources or strategies for collections management and reference, Hernon, McClure and their collaborators introduce aspects of information policies that were previously not addressed in textbooks. This includes areas such as the Paperwork Reduction Act of 1980, amd. 1985, personal privacy legislation, and the Freedom of Information Act. Hernon, McClure et al. were early to introduce concepts of information policy such as access and dissemination of government information. The books are broad yet specific in their treatment of government information and information policies and serve to expand students' understanding of the government information domain and to provide critical framework for understanding it.

Peter Hernon is a professor emeritus at Simmons College's Graduate School of Library and Information Science, where he taught courses on government information policy and resources, evaluation of information services, research methods, and academic librarianship. He was the founding editor of *Government Information Quarterly* and has served as editor-in-chief of *The Journal of Academic Librarianship*. Currently, he is the co-editor of *Library & Information Science Research* (Elsevier).

Dr. Charles R. McClure is the Francis Eppes Professor of Information Studies at the College of Communication & Information, Florida State University, Tallahassee, Florida. He completed his Ph.D. in Library and Information Services from Rutgers University. He was designated as a "Distinguished Professor" at Syracuse University and when he moved to Florida State University in 1999 he started the Information Use Management Policy Institute which over the years has brought in millions of dollars of externally funded projects in areas of public libraries, planning and evaluation of information services, impact, use and deployment of Broadband telecommunications, and IT curriculum assessment. He was also the founding editor of *Internet Research: Electronic Networking Applications & Policy* and the Associate Editor of *Government Information Quarterly* working with Peter Hernon.

A retired (as of 2009) specialist in American government with the Library of Congress Congressional Research Service, Harold Relyea provided detailed reports of how journalists use the federal Freedom of Information Act (FOIA) that have supported efforts to preserve and expand the act. He was responsible for principal research and collection of FOIA data for many years. Joining the Library of Congress in 1971, he quickly became involved doing research and analysis for the House Subcommittee on Government Information, the successor to the Moss Committee, which developed the Freedom of Information Act. Over the years, Relyea played a strong role in the formulation of government information policy, during the time of the 1974 and 1986 amendments, the 1976 Government in the Sunshine Act, and in the 1996 campaign to pass EFOIA, the Electronic Freedom of Information Act. In May 2008 Relyea received the Director's Award from the Congressional Research Service. An undergraduate of Drew University, he received his Ph.D. in government from The American University.

Robert E. Dugan is Dean of the Libraries, University of West Florida, 2010 - present. Formerly Library Director, Mildred E. Sawyer Library, Suffolk University, MA. He is a past member of the Federal Depository Library Council, and State Librarian of Delaware.

Joan Cheverie is currently the Manager, Professional Development Programs for EDUCAUSE, which designs professional programs to advance IT leadership in higher education. Prior to this position, she served as a Policy Specialist for the EDUCAUSE Washington Office, which dealt with critical IT policy issues arising both in Washington, D.C., and on campus. Joan joined EDUCAUSE in 2011 from Georgetown University where she was the Head of Copyright and Rights Management.

MOREHEAD, J. (1992, 1996, 1999). *INTRODUCTION TO UNITED STATES GOVERNMENT INFORMATION SOURCES* (6TH ED.). ENGLEWOOD, CO: LIBRARIES UNLIMITED.

Richardson reviewed the first three editions of Morehead's book, published in 1975, 1978 and 1983, in 1986. The three editions published since continue in the tradition of the earlier editions. The most recent edition of Morehead's text begins with three chapters that describe the government information environment in terms of available programs and services, then begin a traditional reference approach, starting with meta-tools such as finding aids and general guides, with the remaining chapters focusing on sources available from various agencies and departments, using a source/topic approach.

Joseph H. Morehead Jr., former lecturer, College of Computing and Information, 1970-2003, State University of New York at Albany, New York, passed away in September, 2012. Morehead got his undergraduate degree from Trinity College, CT, received a master's degree from Columbia University and received his MLIS from the University of Kentucky at Lexington in 1965. He received a doctorate from the University of California, Berkeley.

ENNIS, L. A. (2007). *GOVERNMENT DOCUMENTS LIBRARIANSHIP: A GUIDE FOR THE NEO-DEPOSITORY ERA*. MEDFORD, NJ: INFORMATION TODAY.

This book includes chapters on aspects of collection management and search strategies for government information, with no focus on sources. The book is especially geared towards librarians working in depository libraries, and helps them understand, execute and comply with the requirement of the Federal Depository Library Program (FDLP). Books that focus on the management of government collections (see also Morrison below) tend to be of more modest scope, with under 200 pages. In 2007/8 when Ennis and Morrison published their books, the traditional textbooks that focus on sources were in need of an update and instructors began to fill the gaps with a combination of book chapters, journal articles and compiling their own resources. It was perhaps during this period that the textbook lost its stronghold as the exclusive teaching material in the course.

Lisa Ennis is currently Director of Learning Resources, and Professor of Library & Information Sciences at the Alabama College of Osteopathic Medicine. Previously, Ennis worked at Lister Hill Library of Health Sciences at the University of Alabama at Birmingham and was the government documents librarian at Georgia College & State University. She received her BA in history from Mercer University in Macon, Georgia, an MA in history from Georgia College & State University, and her MS in Information Sciences from the University of Tennessee.

MORRISON, A. M. (ED.) (2008). *MANAGING ELECTRONIC GOVERNMENT INFORMATION IN LIBRARIES: ISSUES AND PRACTICES*. CHICAGO: AMERICAN LIBRARY ASSOCIATION.

This book is similar in goals and scope to Ennis (2007) and addresses collection management and reference strategies for government information, mostly from born-digital items. Morrison parts from Ennis in several ways. Ennis focuses on the institutions of government information, namely the FDLP and various professional organizations, and brings a single author's perspective. Morrison's book, an edited collection of chapters written by government information librarians, is broader in scope. It discusses serving diverse populations, impacts of technology, electronic collection development, digital preservation and state and international sources.

Andrea M. Morrison is head librarian for monographic text cataloging at Indiana University, Bloomington. She holds an MLS and MA in comparative literature from IU. She is an adjunct professor for the IU School of Library and Information Science and lectures on government information. Morrison is also coauthor with Barbara J. Mann of *International Government Information and Country Information: A Subject Guide* (2004).

FORTE, E. J., HARTNETT, C. J., & SEVETSON, A. (2011, 2016). *FUNDAMENTALS OF GOVERNMENT INFORMATION: MINING, FINDING, EVALUATING, AND USING GOVERNMENT RESOURCES*. NEW YORK: NEAL-SCHUMAN.

Now in its second edition, this book has now become the de facto textbook for students of government information. In some ways follows the tradition of Joe Morehead and Hernon, Relyea, Dugan and Cheverie. The book fills a gap that was created by the rapid obsolescence of textbooks that focused heavily on print collections and had not been updated (Morehead) or that were outdated due to changes in policies (Hernon et al). This is the first textbook written for the post-print government collection and there are several

chapters devoted to developing search strategies and support reference and research skills for online collections. Chapters reflect government structures (e.g. congressional publications, regulations) as well as emerging fields that were only tangentially addressed in prior textbooks such as Morehead and Hernon et al. (e.g. statistical sources, environmental sources, health information, business and consumer information). There are a number of chapter that address data sources and data-driven resources such as statistical sources, census sources, data sources and more, as well as a chapter on archival and historic sources. Each chapter ends with exercises for students. The book is laden with sources, reference and links, and anecdotes. The authors often acknowledge the rapid changes in government information organization and availability and provide strategies for reference independent of local collections. There is great emphasis in the book on free public domain and open-access sources, over proprietary sources.

Eric J. Forte began his library career as an undergraduate student, writing SuDoc call numbers of Congressional documents for the regional federal depository at the Texas State Library in Austin. He holds a Masters in Library and Information Science from the University of Illinois at Urbana-Champaign and has worked as a librarian with government information at Western State College of Colorado, the University of California at Santa Barbara, and Boise State University. He has taught government documents at the University of Illinois, and presented and written about government information in various venues. He currently works with OCLC.

Andrea L. Severson began her library career checking in periodicals at Macalester College. She received her Master of Arts in Library and Information Studies from the University of Wisconsin-Madison, and has since been employed as a government documents librarian at the University of California, Berkeley; the U.S. Census Bureau; LexisNexis, and is currently employed as a trainer with ProQuest. She has served as the chair of the American Library Association's Government Documents Round Table, and was appointed to the U.S. Depository Council to the Public Printer and served as its chair. She is the recipient of the CIS/GODORT/ALA "Documents to the People" Award and the James Bennett Childs Award for distinguished contributions to documents librarianship. She is the author of many articles and editor of *The Serial Set: Its Make-up and Content* (Bethesda, MD: ProQuest, 2013).

Cassandra Hartnett received her Master of Library and Information Studies from the University of Michigan. She has been employed at the University of Michigan Library (Research Library Residency Program), the University of Michigan School of Information, and Detroit Public Library. She currently serves as U.S. Documents librarian, University of Washington Libraries. She also serves as affiliate faculty at the University of Washington Information School, teaching LIS 526 (Government Information). She is a cofounder of the Northwest Government Information Network (NGIN) and was 2008-2009 chair of the American Library Association's Government Documents Round Table. Harnett is a member of us U.S. Depository Council to the Public Printer (2016-2019)

Findings.2 Survey of government information instructors

Our survey included a number of brief questions that inform our understanding of the landscape of government information instruction. The results, available in detail below, indicate that government information course offerings are robust (offered regularly and enrollment is mostly steady or increasing), focus on common areas, and are more likely to be taught in online or hybrid environments. Almost half the instructors are full time faculty.

Experience: We received a total of 26 responses; of these, 84.6% (22 respondents) have taught a government information course in the past five years.

Status of instructors: When asked about their employment status (allowing for *choose all that apply* option, we received the following results:

- Full time faculty: 45.83%
- Adjunct faculty: 25%
- Practicing librarians: 25%
- Retired faculty/librarian: 4.17%

Course titles: The majority of the courses (71%) contained the words "government" and "information" in the titles. Two titles (10%) referred more narrowly to e-government and

one course was titled *Geography and Public Policy*.

Frequency and enrollment: Most of the courses were taught yearly or every two years (61.9% and 33.3% respectively). Just over half of respondents said enrollment has remained steady, while 33% indicated their enrollment has decreased and 18% said enrollment has increased.

Mode of delivery: Half of respondents indicated that their course is taught online. The rest teach either face-to-face (33%) or in blended formats (%16.7)

Content assigned: We wanted to learn whether the textbook is the primary reading assigned to students, or whether other materials supplement the textbook.

- Rely mostly on textbook - 12.5%
- Rely equally on textbook and articles - 50%
- Rely mostly on articles - 20.83%
- Webinars before or during class (56%)
- Other materials - 16.67%

Relations to Federal Depository Library Program (FDLP): We wanted to learn how much emphasis instructors give in their course to all or any aspects of the FDLP. We learned that 52% address the FDLP throughout the course (24% devote less than 10% of the course to discussing the program and 24% devote a few class discussions to the FDLP).

Topics covered in course: We wanted to learn which of the following topics, associated with digital collections, are covered in the course. Instructors indicated they address the following:

- E-government 91.67%
- Government apps 25%
- Government social media 37.5%
- Collection development 41.67%
- Raw data 41.67%
- Digitization 37.5%
- Preservation 41.67%
- Other 50% (Examples include: archiving, local government, comparative sites; policy; permanent public access; reference and research situations)

Findings.3 Syllabi content

While Richardson considered syllabi important but secondary in paradigm identification (Richardson 1986 note 6), since 1986 their use has increased, especially due to text-analysis capabilities. Kousha & Thelwall (2016). Today syllabi are a regularly used source for course content analysis. Pattuelli (2008); Saunders (2015); Sproles (2008).

The corresponding author manually coded 14 syllabi from AY2014/15-AY2015/16. Figure 1 shows the structure of topics covered in government information courses in pyramid form. Materials taught make the foundation of the pyramid and almost all courses cover the federal government, the executive branch, the Office of the President and statistical information. Also widely taught, and therefore close to the pyramid base, are search strategies and user-centered approaches, as well as the working of the FDLP. The middle of the pyramid is stacked solidly with various specialized sources such as legislative sources, SciTech information, regulatory law or geospatial information systems (GIS), and all courses cover some degree of specialized sources, but none cover all. The pyramid is topped by ethics, mentioned only in two syllabi. While concerning, it is worth noting that policy has many occurrences in syllabi and often the discussion of ethics is part of the discussion of policy.

The pyramid structure represents topics as emerging from syllabi. The bottom part of the pyramid is the common denominators, representing topics uniformly addressed by all instructors. The middle of the pyramid represents topic that are mainstream but not universal, and the top of the pyramid represents topic that are emerging and may possible represent the next shift in the paradigm.

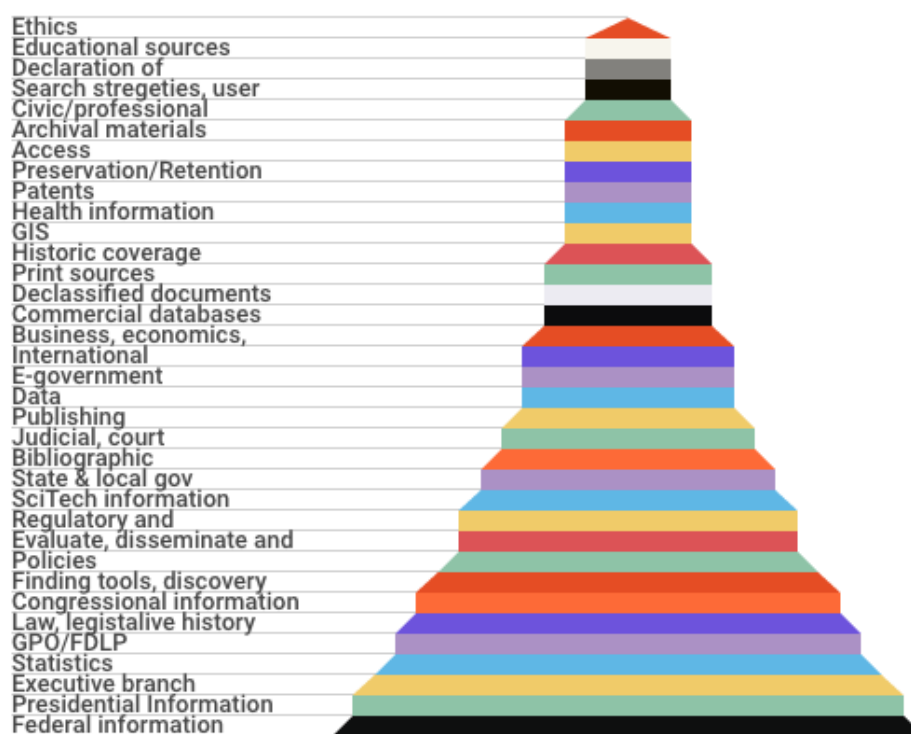


Figure 1

Discussion: *Paradigmatic shifts in the teaching of government publications revisited: 1986-2016*

The overarching purpose of this paper was to see if paradigm shifts occurred since Richardson last visited the question in 1986. In this section we revisit the *essential paradigm* Richardson identified, to see to what extent it is still reflected in instructional materials such as textbooks, syllabi and questionnaire, or whether changes have occurred in the paradigm. If changes have occurred, we determine whether this constitutes a paradigm shift. We follow Richardson (in the footsteps of Kuhn) by addressing *scope of concern, level of government, and source of issue*.

As in Richardson's conclusion, here too shifts occur on a continuum, and in that sense, they are *shifts* rather than clear tipping points.

Scope of concern:

Scope of concern refers to defining boundaries in the field, setting expectations for incoming cohorts: "Such boundaries must be clearly defined so that these individuals know what they are claiming competency for and where their responsibility lies." (JVR 1986, 257).

Richardson identified the scope of concern of government information instruction as transitioning from *government documents/publications* in 1915, to *government information*, and from *library* to *library and information science* in 1986. In our 2016 analysis of multiple data sources, we see this paradigm continue to shift. The transition Richardson identified continues, and largely dominates the field. The current and growing scope of concern emerging from the findings above is the emerging new areas that replace traditional areas represented in textbooks: policies, e-government and data services. However, whether offered by a school of information or by a school of library and information science, most courses maintain some kind of instruction in the FDLP, as indicated by syllabi and questionnaires.

Richardson described the 1980s as a period when government agencies stopped published on paper, and "increasingly" gathered information but didn't disseminate it unless it was requested through Freedom of Information laws. During the 1980s, there were attempts to

privatize government information, or to charge fees for cost recovery, particularly from the science-oriented 13642 agencies (NTIS, Eisenbeis 1995). While the FOIA system continues to be an important channel to transparency, as discussed below, the quantity of information both gathered and disseminated by the federal government is unprecedented. This may change going forward.

Since 1986, the scope of concern has shifted from *documents* to *information* (1915 to 1986) and from *information* to *data and policies* (1986-2016). All three of our data sources indicate increasing instructional emphasis on data sources in addition to textual sources. The most widely used textbook, Forte et al., devotes a significant number of chapters to various data sources. Further, study of syllabi also indicates that data sources feature significantly in courses. Likewise information policy seems to have gained prominence in government information instruction and is addressed in many courses, as indicated by the syllabi analysis. Richardson identified the shift to *information* as necessary "to reflect the fact that many agencies collect but do not disseminate or distribute their information". We identify the shift to data to reflect the widespread availability of data files, particularly during the years 2013 to the time of writing, as a result of President Obama's May 9, 2013 open data memorandum (Executive Order). Needless to say, it remains to be seen how the new administration's policies will affect this trend, although early indications seem to reflect a greater hesitancy to share data with the public – certain sources of climate science data were removed from government websites in the period just after inauguration.

Level of government

Assuming, to echo Richardson (JVR 1986, 259), our scope of concern is *information*, or more recently, *data*, then the level of government is obviously relevant to the paradigm. Richardson (1986, 260) points out that the collection of the textbook writer's home institution library largely determines if their textbook will include local/state/international levels of government. It was not until 1985 that international sources such as the United Nations were included in textbooks. Today both international sources and e-government sources (which are often produced by local government) feature in the middle of the pyramid – the trend certainly continues. This position in the middle of the pyramid likely underrepresents the true pedagogical emphasis on both international and local levels of governments, since areas like data, statistical information, and legal information all borrow from local and international governments as well as federal.

Further extending Richardson's observation on the impact of the writer's collection environment, we should note that the time between 1986 and 2016 witnessed the post-collection revolution. While the library of the home institution may still impact the author, instructors and their students are no longer bound by the physical collection. This opens possibilities to address local and international sources in the class. Much of the instruction relies heavily on public access digital collections. This is reflected in the fact that over half of the instructors teach their courses in an online or hybrid classroom, and may reduce the impact of the home institution library in determining level of government taught in courses.

Source of issue

With some exceptions, the organizing principle of government information textbooks since 1915 through 1986 to the present predominately reflects structure of government organized by branch of government and within branch, by agency or dept. However, in newer textbooks as well as in the webinars and other sources used by instructors, there is growing emphasis on large aggregate collections such as Govinfo.gov from the Government Publishing Office, which is a full text collection of content from all branches of government, or data.gov and Science.gov that include sources and all levels of government including international and state governments. These aggregate collections all focus on discovery and their search algorithm is designed to transcend the traditional publisher arrangement that prior indexes relied upon. The syllabi showing supplementation of the textbook with other educational sources hint at larger variety of source of issue. The decrease in emphasis on print materials, and on the Superintendent of Documents classification system, also shows a shift in emphasis from the issuing agency organization and towards subject/collection paradigm. See Table 2

	1986	2016
Scope of concern	The transition from <i>library</i> to <i>library and information science</i> ; from <i>documents</i> to <i>information</i>	Transition from print to digital collections; Expansion of <i>information</i> to <i>data</i>
Level of government	Creeping recognition of the importance of state and local government sources	Greater emphasis on local government information, particularly in the e-government context
Source of issue	Transition from bibliographical essays and annotated bibliographies to the thematic textbook approach	Source of issue— transition for agency structure to aggregate collections; transition from course-specific textbooks to area/topic-specific uncollected writings and multiple media sources

Table 2

Conclusion

In the period covered from 1986-2016, the paradigm of teaching government information has further shifted, reflecting changes in increased availability of data sources and of digital collections, and showing the proliferation of educational sources beyond the textbook.

Richardson (JVR 1986, 262) expresses concern that continued reliance on teaching government information centered on the branch of government approach will impede the goal of “providing public access to global government information.” Our findings indicate that the subject approach that Richardson supports, along with greater emphasis on evaluation and research strategies, is evident in both textbooks and syllabi studies, and universal public access is addressed in reading and teaching materials. The emerging skills built around data, which include data gathering analysis, data management and preservation, extend beyond the framework of government information instruction and may be taken up at subsequent research.

For instructors teaching in the areas of government information, understanding the essential paradigm in the field contributes to understanding the agreed and emerging areas of expertise expected of incoming professionals working with government information on the continuum from print to data.

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Appendix A: List of syllabi informing this research

1. State University of New York at Albany. United States Government Information Sources
2. Catholic University Government Information SP15
3. Indiana University Government Information SP15
4. Kentucky University, Government Information SP15
5. Long Island University, Government Information FA14
6. Pratt Institute, E-government information and users SP15
7. Rutgers University. Government Information Resources SP15
8. Southern Mississippi, Government Resources and Publication SP15
9. University of Denver. Government Publications FA14
10. University of Hawaii. Government Documents and Archives SP15
11. University of Illinois. Government Information and Public Policy FA15
12. University of Maryland. Access to Federal Government Information SP14
13. University of Pittsburgh. Government information Resources and Services SP15
14. University of Rhode Island. Government Publication SP14

Appendix B: Survey to instructors - government information instructors

1. Have you taught a course in government information in the last 5 years? Y/N
2. What is the official title of your course?
3. How frequently is the course offered? Every semester; Once a Year; Every other year; Other
4. Over the past 5 years, has enrollment in the course – Increased; Decreased; Remained steady
5. Do you teach the course: Face-to-Face; Online; Hybrid
6. Do you use a textbook? Y/N
7. Of the listed textbooks, which do you currently use and which have you used in the past? (Table of 11 titles + Other)
 - 1) *Fundamentals of Government Information: Mining, Finding, Evaluating, and Using Government Resources*, Eric J. Forte, Cassandra J. Hartnett, and Andrea L. Sevetson (2011/2016)
 - 2) *Managing Electronic Government Information in Libraries: Issues and Practices*, Andrea M. Morrison, ed. (2008)
 - 3) *Government Documents Librarianship: A Guide for the Neo-Depository Era*, Lisa A. Ennis (2007)
 - 4) *Government Publications Unmasked: Teaching Government Resources in the 21st Century*, Wendy Mann and Theresa R. McDevitt (2003)
 - 5) *United States Government Information: Policies and Sources*, Peter Hernon, Harold Relyea, Robert E. Dugan and Joan F. Cheverie (2002)
 - 6) *Introduction to United States Government Information Sources*, Joe Morehead (2002)
 - 7) *Using Government Information Sources; Electronic and Print*, Jean L. Sears and Marilyn K. Moody (2001)
 - 8) *Tapping the Government Grapevine: The User-friendly Guide to U.S. Government Information Sources*, Judith Schiek Robinson (1998)
 - 9) *Federal Information Policies in the 1990's: Views and Perspectives*, Peter Hernon and Harold C. Relyea, eds. (1996)
 - 10) *Subject Guide to U.S. Government Reference Sources*, Gayle J. Hardy and Judith Schiek Robinson (1996)
 - 11) *United States Government Information Policies: Views and Perspectives*, Charles R. McClure, Peter Hernon and Harold C. Relyea (1989)
8. Do you assign articles in your course?
 - 1) I rely mostly on the textbook
 - 2) I rely equally on the textbook and on articles
 - 3) I rely mostly on articles
 - 4) Other (please specify)
9. Which of these broad areas is covered in your course?
 - 1) Federal government sources
 - 2) State/local sources
 - 3) International sources
 - 4) Information policies
 - 5) Other
10. Which of the following topics is covered in your course?
 - 1) Collection development
 - 2) Data sources
 - 3) Mobile government apps
 - 4) E-government
 - 5) Digitization
 - 6) Preservation
 - 7) Other
11. Do your students handle print resources as part of the course? Y/N
12. Do you include external webinars either during class time or as additional learning aids? Y/N
13. Describe how extensively you cover the Federal Depository Library program and the duties of FDLP librarians
 - 1) Less than 10% of the course
 - 2) I devote a few class discussions to the FDLP
 - 3) I address it throughout the course
 - 4) Other
14. Are you
 - 1) Full time faculty
 - 2) Adjunct faculty
 - 3) Retired faculty/librarian
 - 4) Other

'Grey crossroads' in cultural heritage preservation and resource management^{*}

Luisa De Biagi and Roberto Puccinelli (Italy)

Abstract

Among the assets that make up the cultural heritage of a country, a special place is assigned to the internal documents produced by organs and entities belonging to the Public Administration. In the public sector, for example, the minutes of meetings of the Boards of Directors are considered historical documents and as such are preserved in the for a long time. Actually from them it is possible to gain insight about the genesis of important decisions which affected the lives of many people. In some countries there is a legal obligation to deposit those documents in long term digital preservation systems, which adhere to ad hoc defined standards. In our opinion, many of those documents can be reckoned as grey literature assets and, beyond "plain and simple" preservation, some additional measures may be deployed in order to extract information and insights from them. In this paper we illustrate a process to collect those assets, cleanse and enrich their metadata and then store them in ad hoc defined data marts, upon which Business Intelligence tools can be used for data navigation and analysis. We finally show some examples of insights that may be acquired from such analysis.

Introduction

Grey literature is a field in library and information science that deals with the production, distribution and access to multiple document types produced on all levels of government, academics, business, and organization in electronic and print formats not controlled by commercial publishing, i.e. where publishing is not the primary activity of the producing body (GreyNet, 2011).

Grey literature is produced by entities whose main goal is not publishing. The grey material produced by public administrations and public/ industrial research laboratories, is significant both quantitatively and qualitatively, but has restricted dissemination for internal use. It should be noted that organizations, researchers and academics supplying scientific and technical information in grey literature, trust and support this type of documentation, not only because it contains more detailed outcomes and data, but also because it's produced up to 12 or even 18 months before the official papers are published.

Thus, the two way problem is: accessing grey literature for researchers and reaching identification and acquisition of grey literature for librarians and other information professionals. Moreover, the impact of Grey literature is largely dependent on research field/disciplines and its subjects categories, on methodologies approaches and on sources used. Nowadays newsletters, e-mails, blogs and other social networking sites are community based kinds of GL.

Practice Guidelines are highly important to biomedicine and nursing, working papers are used in Social Sciences (particularly Economics) and patents are important for the so called "hard sciences" (Physics, Geophysics, Chemistry, Biology, Maths) and for applied/technical sciences as Engineering.

Research data are also a kind of grey literature, even considering Social Sciences and Humanities: for example census, geospatial and economic data are used by local governments to formulate policies about preservation, valorization and risk evaluation.

Actually, other branches of cultural heritage are focused on technical aspects, such as archeology and archeometrics, architecture, diagnostics, preservation and restoration, also used for risk evaluation (e.g.: see recent Italian earthquakes and the current discussion about restoration and rebuilding policies and plans).

By consequence, given that some results remain hidden, not published anywhere but internal 'grey'sheets or data-set archive, there might be more integration between the digital preservation and the various commercial tools and settings managing the long term accessibility of records in database systems useful to decision makers (data warehousing).

^{*} First published in the GL18 Conference Proceedings, February 2017

Another interesting source of grey literature is the administrative activity of organizations. Many documents are produced during the lives of organizations that in some way trace their history, evolution and end, sometimes providing detailed information about the motivations behind events and decisions. In many countries, there is currently a legal obligation regarding long-term digital preservation of this type of documents. This means not only that the assets will be preserved, but also that their long-term readability will be guaranteed. Moreover, this provides a chance for collecting and controlling useful metadata about the above mentioned assets.

One interesting example are the minutes of the Boards of Directors' meetings. They are considered historical documents and as such must be preserved in the long run. Actually, from them it is possible to gain insight about the genesis of important decisions, which affected the lives of many people.

We think that this long-term accumulation of documents and data lays the basis for the implementation of data warehouses, upon which many types of analysis could be performed. To achieve that goal, a well-designed process must be put in place in order to collect, cleanse and enrich high quality contents and metadata.

In the following we present a short description of models, workflows and architectures for digital preservation. We then describe Business Intelligence framework for metadata and content analysis. We finally illustrate some best practices and European project examples.

Digital Preservation: models, workflows and architectures

Digital Preservation can be considered a mature field in which a well identified set of standards and best practices has been developed over time and accepted by the reference community.

The **Open Archival Information System (OAIS) model** is currently considered the reference model for Digital Preservation Systems. It has been developed in the context of space agencies, which needed to preserve the huge mass of data coming from satellite observations. First introduced as recommendation in 2002, it has been promoted to ISO standard in 2003 (**ISO 14721**), subsequently updated in 2012 (**ISO 14721:2012**).

It does not describe a technical architecture nor it assumes a particular one. It just defines:

- the **functions** a DP system should implement,
- the **actors** that interact with the system (content producers, repository managers, content consumers),
- the supported **workflows** and
- the **digital objects** that are stored, managed and exchanged with the external world.

According to the OAIS model, a DP system should implement a set of functions that can be associated to the following functional entities:

Administration: allows the configuration of the system and the coordination of all the other entities;

Ingest: accepts contents and related metadata;

Archival storage: stores contents and related metadata and provides access to them;

Data management: collects and maintains the information required for the management and access of the contents;

Preservation Planning: monitors the contents and guaranties the access and readability of the contents for the designated community, also executing format migration in case of obsolescence;

Access: provides controlled access to contents through Authentication and Authorization mechanisms.

The elementary unit for a DP system is the **Information Object (IO)**, which comprises the **Data Object (DO)** - the actual digital content, represented as a bit-stream conforming to a particular format) and the **Representation Information (RI)** needed for the correct fruition and interpretation of the digital content. A DP system accepts, manages and generates **Information Packages (IP)**, which are composed of IOs. The OAIS model identifies the

following three types of IP, each one containing one or more digital contents and the related meta-information:

- **Submission Information Package (SIP)**, used by the content providers to submit their objects to the DP system,
- **Archival Information Package (AIP)**, used by the system to archive contents (the contents provided in one SIP could be store in one or model AIPs),
- **Dissemination Information Packages (DIP)**, composed by the system in response to the access requests submitted by consumers.

Let's take the case of AIPs, which are the ones actually stored in a DP system. They are composed of **Content Information** (generally implemented as an IO containing the actual digital content and the related metadata) and the **Preservation Description Information (PDI)**, which is composed of one or more IOs that provide the following types of information:

Reference Information, which regards the identifiers assigned to the digital content;

Context Information, which documents the creation context of the digital content;

Provenance Information, which describe the origin and the history of the object;

Fixity Information, which is used to certify provenance and integrity of the object.

In a Digital Preservation system, knowledge can be extracted both from contents and metadata, the latter being the easiest to leverage, being by nature structured and (hopefully) controlled. The main standards used in DP systems for packages and metadata formats are:

- **UNI-SInCRO 11386: 2010**, for IP's structure (with particular reference to AIPs),
- **ISO 15836:2003** Information and documentation - The **Dublin Core** metadata element set, for metadata in general.

Analysis workflows

In the present section we describe a viable workflow that allows the creation of grey literature Data Warehouse. The reference scenario features a set of repositories (belonging to one or more organizations) that represent the main source of information for the whole system. The workflow can be divided into two main streams: one for metadata the other for actual contents.

Metadata

Metadata can be extracted from the system using ETL procedures (Extract-Transform-Load) that fetch metadata from the repositories, perform cleansing, enrich them using of external data sources and reconcile them in a unified data base structure. Additional ETL procedures are then used to populate ad hoc data marts designed to address different types of inquiries and users. Data visualizations and analysis tools are then used to create queries and display results by means of tables and charts.

Textual contents

Textual contents are still a challenging asset to manage where it comes to knowledge extraction, due to their unstructured and often inconsistent nature. There are two interesting approaches to extract information from textual unstructured documents. Nevertheless, there is a wealth of text processing techniques and algorithms that can help getting insights from document bases. We identify two interesting approaches in this field: one aimed processing unstructured data to extract knowledge that can be expressed in terms of concepts, relations, topics, categories, etc., which are themselves represented by text; the second is focused on extracting textual and numerical information from documents, that can be fed into a classic data warehouse and used to produce tables and charts (i.e. provide quantitative insight). The latter approach is closer to classic decision support systems, but the former can provide useful, non-trivial insight. To facilitate the following exposition, we shall call the first approach "semantic" and the second "quantitative". These terms do not match with any standard or universally accepted taxonomy and will be used just for the sake of clarity.

Examples of the first type of analysis are:

- **Information extraction**

These techniques allow the extraction of structured information from unstructured text. A typical example is the identification of predefined relations in arbitrary text, such as marriages or company mergers. The text “The wealthy John Doe married the gorgeous Jane Doe in the beautiful countryside of Tuscany the 4th of July 2016” could be reduced to the following representation

Marriage (John Doe, Jane Doe, 4/7/2016)

if the relation of interest is of the type

Marriage (*husband, bride, date*)

- **Topic Tracking**

The goal of these algorithms is to determine whether a text could be of interest for a particular user, based on criteria such as the user’s profile, his previous readings and selected keywords.

- **Summarization**

A summarization algorithm reduces a lengthy text to few sentences that capture the essence of the whole document.

- **Categorization**

Categorization allows to assign documents to one or more categories belonging to a predefined set.

- **Clustering**

Clustering algorithms identify groups of similar documents (clusters) and assign them labels. In this case the labels are not predefined like the categories of categorization algorithms, but are generated on the fly based on the treated topics.

As regards the “quantitative” approach, an interesting example is described used in text tagging and annotation to analyse documents in order to identify and tag terms that correspond to domain-specific entities (for example, proper noun and numerical expressions) and then feed those terms into a classic star schema that can be queried to provide aggregated and detailed indexes.

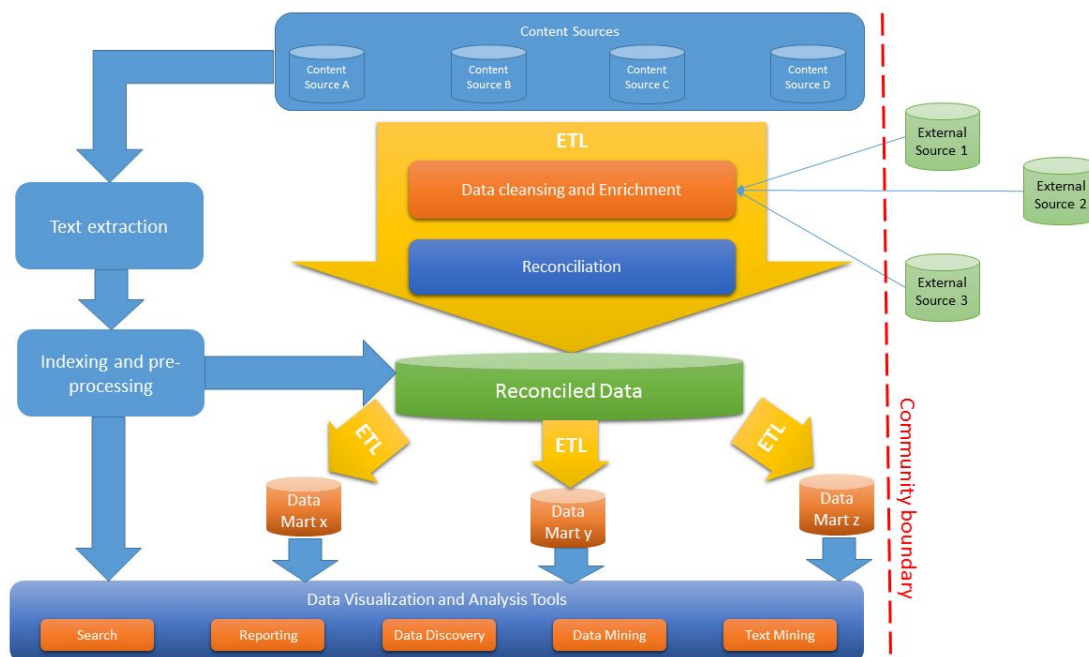


Fig. 1: data flow

In fig 1 we illustrate the data flow. At the top we have the content sources that in our case, as previously stated, are a set of repositories belonging to one or more organizations. On the left we have the flow of textual contents that are indexed and pre-processed in order to extract structured data that can be partly fed into the reconciled data base, which represents the starting point for quantitative analysis. At the centre of the figure we have

the ETL procedures that cleanse, transform, integrate and enrich metadata that are then fed into the reconciled data base. Additional ETL procedures populate ad hoc data marts. The external sources on the right are obviously used to enrich metadata. Textual contents and metadata can be searched and analysed by means of the tools that are represented at the bottom of the figure.

A Business Intelligence framework for metadata analysis

As regards source repositories, we assume that they can be harvested via OAI-PMH. **Fedora**, for example, is a well-established software for Digital Preservation repositories featuring an OAI-PMH provider. Metadata are exported in Dublin core format. Any other process for extracting metadata and contents is acceptable, although open standards are the most reliable choice in the long run.

In our technological framework, the software platform **Talend** is used to implement and execute ETL procedures that perform cleansing, enrichment and reconciliation.

The “Reconciled data” data base and the thematic data marts, are managed via PostgreSQL that, in our opinion, can be considered the most mature enterprise-level open source RDBMS.

As regards textual contents processing we think **ElasticStack** is a reliable integrated solution that features the following components:

- **Elasticsearch**, a distributed, JSON-based search and analytics engine,
- **Beats**, which acquires and sends data to Logstash and Elasticsearch,
- **Logstash**, which allows to compose the data collection pipeline,
- **Kibana**, that enables data presentation and provides a user interface for ElasticStack configuration.

The latter component can be seen as part of the “Data Visualization and Analysis Tools” box in Fig.1, which also includes Jasper (tables and charts) and Knime (Data and Text Mining).

Data discovery is an interesting new trend in data analysis and visualization, that allows data browsing and navigation through non-predefined paths. It leverages in-memory technologies and associative data bases for data storage, thus providing very low response times. To the best of our knowledge, there is currently no open source solution in this field. Commercial platforms are Tableau, Qlik, TIBCO Spotfire, Microsoft Power BI, MicroStrategy, SAP (Lumira), Platfora, Datameer, ClearStory Data, AnswerRocket, and Datawatch.

Analysis types, possible insights

A key point for any system aiming at extracting value from metadata and digital contents is to ensure that metadata quality in terms of completeness and accuracy. This can be better achieved if the quality control is performed at the content source level and if all the useful information is gathered at ingestion time.

Let’s take the case of Board of Directors minutes. Much insight can be gained from text analysis and text mining, but the task becomes easier if the following information is kept as structured metadata:

- discussion points,
- decisions by type,
- yearly budgets approved,
- budget variation amounts.

In this case it is trivial to identify, for instance, a correlation between BoD decisions and organization’s performance or to evaluate the frequencies of the different discussion topics. Obviously, metadata value should be, as far as possible, numeric or selected from pre-defined lists.

Best practices and European Project Examples

The launch of UNESCO programme 'Information for All'¹ provides a platform for discussing actions on information policies and the safeguarding of recorded knowledge, in coordination with the 'Memory of the World Programme', which aims to ensure preservation and universal accessibility of the world's documentary heritage.

To achieve those goals it's necessary to leverage long-term preservation and big data technologies because they can provide tools to process high volumes of data coming from different sources and represented in different formats.

Other important technological assets for the access, study and protection of cultural heritage products are: new visualization techniques, implementation of 3D models of cultural heritage, search tools for digital libraries, new approaches to digital curation and preservation.

In Europe, beside large-scale aggregators of digital collections like Europeana², outstanding projects about e-Infrastructures for digital cultural heritage are launched and managed by the paneuropean Network DARIAH-EU³ - Digital Research Infrastructure for the Arts and Humanities - (18 countries, Italy included with CNR as National Coordinator) and CLARIN⁴ - European research Infrastructure for Language Resource Technology.

With regard to DARIAH, which takes part in ERIC - European Research Infrastructure Consortium - and ESFRI - European Strategy Forum on Research Infrastructures - , remarkable benefits assured to digital cultural heritage communities and DARIAH-EU affiliated Projects are:

- visibility for National Research in Humanities and possibility of sharing data in a wider community; Technical environment and cooperation (e.g. virtual machines, long-term archiving, collaboration spaces etc.);
- expertise in data modeling and standards for metadata interoperability and virtual research;
- Sustainability: Research data, experiences, outcomes and publications, creating a European legal entity.

In this way DARIAH-EU Project applies for a Network with:

- close interface with Research community, their methods and questions;
- a forum to discuss current work and possible advancements, having a direct feedback from researchers expressing specific needs about digital data management and tools;
- more opportunities for financing of national and international projects.

Other interesting examples of European best practices in Cultural heritage data management and dissemination are DANS (Data Archiving and Networked Services)⁵, and ADS (Archeology Data Service)⁶, funded by the University of York (UK), which is member of Europeana Network and associated member of Digital Preservation Coalition⁷. In ADS the digital archiving of research data is entrusted to the service. ADS uses the Open Archival Information System (OAIS) reference model, which is integrated with various internal policies and procedures aimed to ensure that the data are correctly managed.

ADS main mission is "research, learning and teaching with freely available, high quality and dependable digital resources". Always keeping a watchful eye on the target audience, ADS promotes updated good practices and technical advices in managing archeological data: a correct way also to enhance ICT research on preservation and exploitation of cultural heritage.

¹ <http://www.unesco.org/new/en/communication-and-information/intergovernmental-programmes/information-for-all-programme-ifap/>

² <http://www.europeana.eu>

³ <http://www.dariah.eu/>

⁴ <https://www.clarin.eu/>

⁵ <https://easy.dans.knaw.nl/ui/home>

⁶ <http://archaeologydataservice.ac.uk/about>

⁷ <http://www.dpconline.org/>

Finally, a short note about Vocational Education and Training: it is desirable and suggested, both by academic-scientific community and by professionals, to integrate the “big data” topic in cultural heritage and social sciences curricula studiorum, especially for the sub-fields of information science, librarianship and archival sciences.

Conclusions

In this paper we have highlighted how some types of Grey Literature assets could be leveraged to gain useful insights regarding the lives of organizations and countries. The legal obligation for long-term digital preservation currently enforced in many countries represent a great chance for building data warehouse infrastructures that collect resources and metadata from DP repositories, cleanse and enrich them and allow different types of analyses performed on ad hoc populated data marts.

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Policy Development for Grey Literature Resources: An Assessment of the Pisa Declaration*

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Stefania Biagioni and Carlo Carlesi (Italy);
Herbert Gruttemeier and Christiane Stock (France)

Abstract

In the spring of 2014, a workshop took place at the Italian National Council of Research in Pisa¹. The topic of this event dealt with policy development for grey literature resources. Some seventy participants from nine countries took an active part in the workshop – the outcome of which produced what is today known as the Pisa Declaration². This fifteen point document arising from the input of those who attended the workshop sought to provide a roadmap that would help to serve diverse communities involved in research, publication and the management of grey literature both in electronic and print formats.

The Pisa Declaration has been translated and published in some twenty languages. They are all accessible online via the GreyGuide Repository³ and Portal⁴. Currently, 140 information professionals from renowned organizations worldwide have endorsed this document⁵.

In an effort to assess the impact that the Pisa Declaration has had during the last two years on the policy development for grey literature resources, an online survey among those who endorsed the document was carried out and their responses were analysed. Descriptive statistics and short summaries are used to describe the basic features of the data collected. They are combined with simple graphics that offer easier visual representation of the results achieved. Specific results of the survey analysis indicate those points in the Pisa Declaration that in varying degrees are of relevance and importance to grey literature, as well as points that need further attention and work. Although integral part of library and information management practice grey literature has its own peculiarities and needs that require special attention in order to reach its deserved level of importance in today's research and other activities.

Introduction

Since its publication in 2014, the Pisa Declaration on Policy Development for Grey Literature Resources has been endorsed by 140 signatories from 74 organizations in 30 countries worldwide. This Declaration has since been translated from the original English text into 20 languages and has come to be termed as the 'roadmap for grey literature in the 21st Century'. Now two years on, it is opportune to assess the impact this document has had on library and information practice. It is to this end that an online survey was conducted among its signatories, the results of which are found here recorded.

Survey sample size and population

Online questionnaire-based Pisa Declaration survey was created and placed on the SurveyMonkey on 25 April 2016. It consisted of 10 multiple choice questions with some of them offering a possibility to leave additional comments. The survey was designed in English language only. First survey replies were received on 30 May and the survey was closed on 18 July 2016. Figure 1 shows the survey response volume and the time distribution.

Requests for completion of the survey were sent to all 133 Pisa Declaration signatories, out of which 60 responded. This marked a 45% response rate.

Generally speaking there are two types of surveys - Surveys distributed internally, such as this one, since it was distributed only to a pre-set group of individuals, and external surveys distributed to wider audience, such as potential customers or general public.

* First published in the GL18 Conference Proceedings, February 2017

¹ <http://eventi.isti.cnr.it/index.php/en/programme-grey>

² http://www.greynet.org/images/Pisa_Declaration_May_2014.pdf

³ <http://goo.gl/72yexP>

⁴ <http://greyguide.isti.cnr.it/>

⁵ <http://greyguiderep.isti.cnr.it/pisadecla/listaiscritti.php?order=name>

According to SurveyGizmo.com, internal surveys will generally receive a 30-40% response rate on average, compared to an average 10-15% response rate for external surveys.⁶ Achieved response rate of 45% with the Pisa Declaration survey is therefore, regarded as above the average.

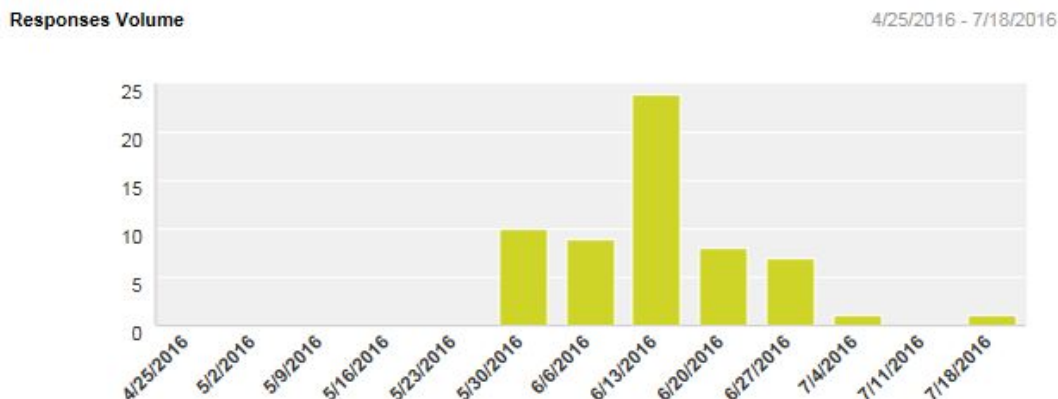


Figure 1: Response Volume

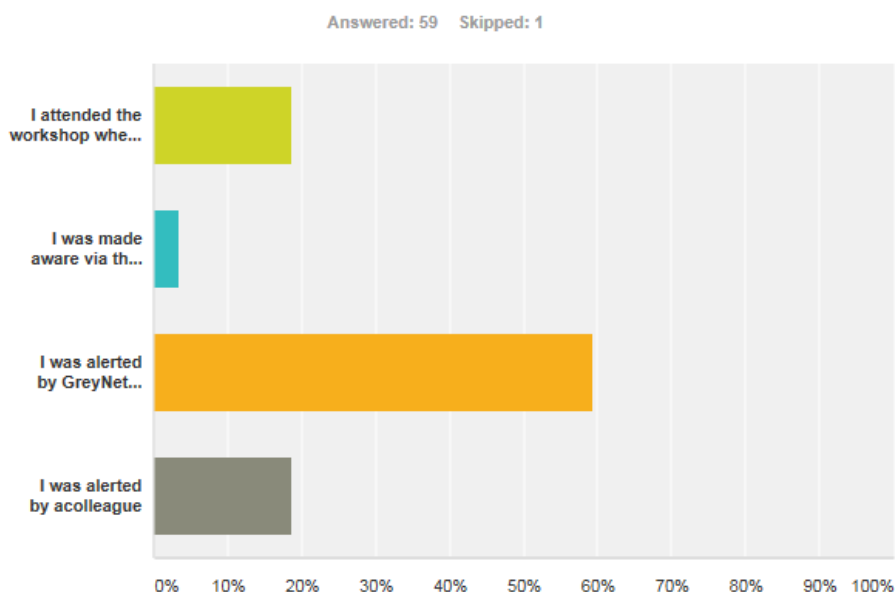
Question 1: How did you first come to endorse the Pisa Declaration?

The goal of this question was to find out the way respondent found out about the Pisa Declaration. Out of 60 respondents, 59 answered this question. One respondent skipped this question and left an interesting comment that he/she does not remember how it came out to endorse the Pisa Declaration.

Replies to this question offer some interesting conclusions. First of all, the website is not the best channel for promoting, grabbing people's attention or inciting them to take some action, in this case to endorse the Declaration. Only 3.4% indicated that as the main prompt for endorsing the Declaration. Lots of institutional and organizational resources go into website creation, development and maintenance, but the impact is not always so great. According to the answers received, direct contacts by the GreyNet International (almost 60%), or by a colleague (18.6%) produced the best results which should encourage us to continue maintaining personalized mailing lists and to use multiple opportunities offered by social media, such as Facebook and Twitter.

Interestingly enough, attendance the workshop where the Pisa Declaration was drafted was the reason for only 18.6% respondents to endorse it.

How did you first come to endorse the Pisa Declaration?



⁶ <https://goo.gl/2l8Zbx>

Answer Choices	Responses	
I attended the workshop where the Pisa Declaration was drafted	18.64%	11
I was made aware via the GreyGuide Portal and Repository	3.39%	2
I was alerted by GreyNet International	59.32%	35
I was alerted by a colleague	18.64%	11
Total	59	
Comments (5)		

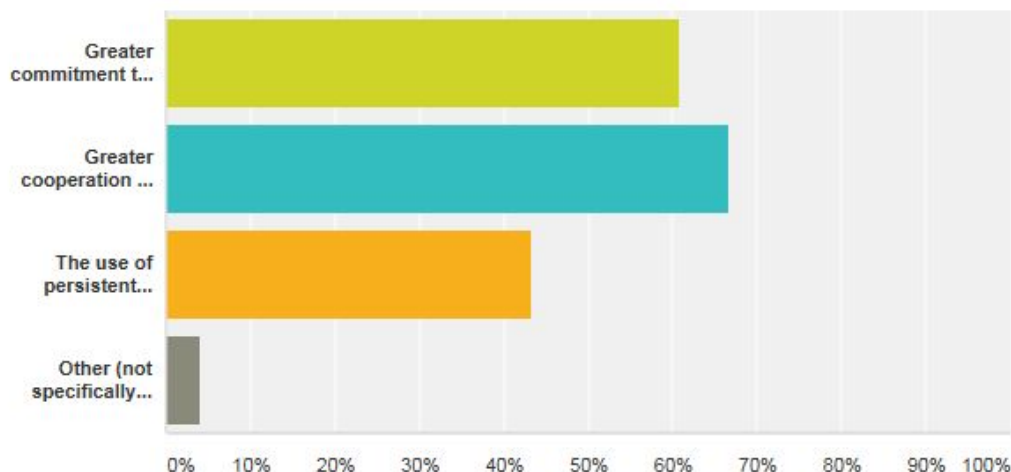
Figure 2: Survey Question No. 1

Question 2: Indicate the Organizational point(s) stated in the Pisa Declaration that concern your organization most

Although the question was referring to the Pisa Declaration, it was aimed at finding out more about the main topics of interest or main concerns that organizations have regarding grey literature. Replies indicate that all three indicated areas namely open access, cooperation, and operational standards, currently represent topics of high importance and interest. In a way it is an indication of the current state of grey literature in organizations where much action is required for better processing, dissemination and use of this type of literature.

Indicate the Organizational point(s) stated in the Pisa Declaration that concern your organization most

Answered: 51 Skipped: 9



Answer Choices	Responses	
Greater commitment to open access by governments and organizations	60.78%	31
Greater cooperation and coordination among organizations engaged in the production, use, collection and management of grey literature	66.67%	34
The use of persistent identifiers and open metadata standards for grey literature	43.14%	22
Other (not specifically mentioned in the Declaration)	3.92%	2
Total Respondents: 51		

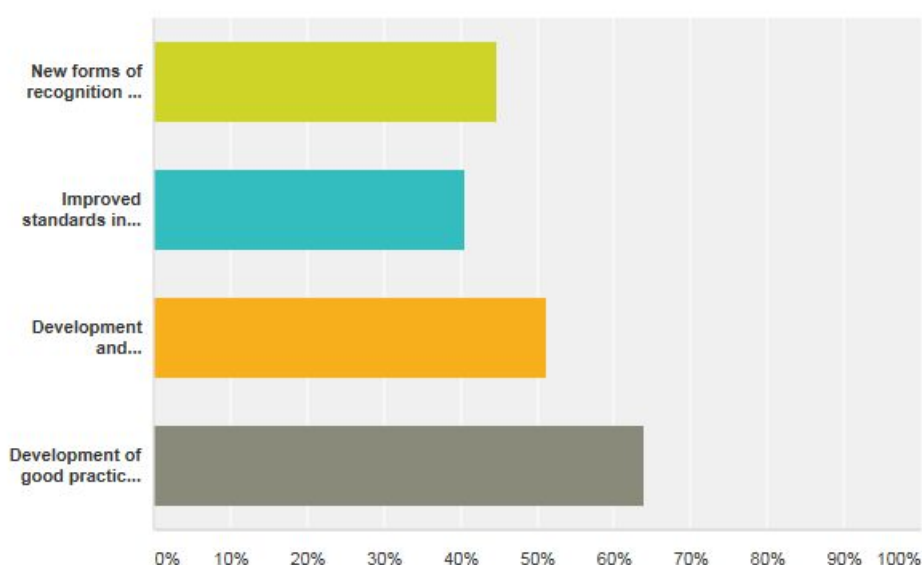
Figure 3: Survey Question No. 2

Question 3: Indicate the Research and Educational point(s) stated in the Pisa Declaration that concern your organization most

In a way question number 3 is a continuation of the previous question, since both of them try to find out more about the main topics of interest or main concerns that organizations have regarding grey literature. The difference is that this particular question is concentrated on research and educational points. Similar nature of the question and similar answers received. They also indicate that all four indicated areas – recognition, production and interoperability standards, and good practices, currently represent topics that require attention and further improvement work. Again, it is an indication of the current state of grey literature in general, with many areas and opportunities for improvements.

Indicate the Research and Educational point(s) stated in the Pisa Declaration that concern your organization most

Answered: 47 Skipped: 13



Answer Choices	Responses
▼ New forms of recognition and reward for quality grey literature materials by governments, universities and other institutions	44.68% 21
▼ Improved standards in the production and bibliographic control of grey literature	40.43% 19
▼ Development and implementation of interoperable standards in the management of grey literature	51.06% 24
▼ Development of good practice guides for the production, dissemination, and evaluation of grey literature	63.83% 30
Total Respondents: 47	

[Comments \(2\)](#)

Figure 4: Survey Question No. 3

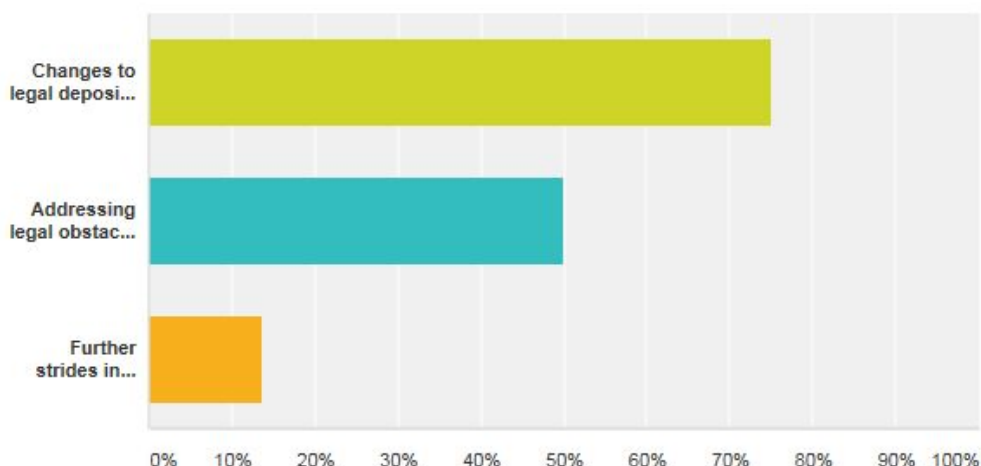
Question 4: Indicate the Legal point(s) stated in the Pisa Declaration that concern your organization most

Legal issues and protection of the intellectual property in information management and in management of grey literature is of huge concern for everyone. It is a concern to both – information providers and information users. Challenges are present on both sides, although in different forms. Information providers want to make their documents available, preferably as open source, but still protected as their unique intellectual property. Information users would like to use as much documentation, information and data as possible, but at the same time to be respectful of copyright issues. What the replies to this question on legal concerns indicate is that providers need enhanced copyright regulations

that will improve the capabilities of libraries and other collecting services so that they can provide available documentation without much hindrance.

Indicate the Legal point(s) stated in the Pisa Declaration that concern your organization most

Answered: 44 Skipped: 16



Answer Choices	Responses
Changes to legal deposit and copyright law that enhance the capacities of libraries, collecting services and educational institutions and programs to collect and provide access to grey literature, particularly non-commercial public interest materials	75.00% 33
Addressing legal obstacles to the dissemination of grey literature	50.00% 22
Further strides in licensing grey content for both commercial and non-commercial purposes	13.64% 6
Total Respondents: 44	
Comments (1)	

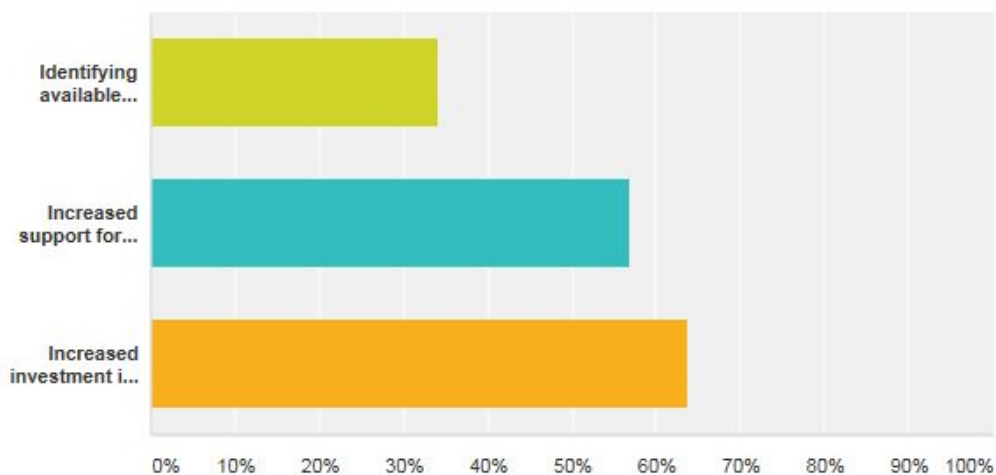
Figure 5: Survey Question No. 4

Question 5: Indicate the Financial and Sustainable point(s) stated in the Pisa Declaration that concern your organization most

Replies to this question were predictable. Grey literature, all of its sides and activities need more money, better and sustainable financing on a long run. The most urgent seems to be increased investment in infrastructure and new technologies, followed by grey literature long-term preservation. The issue of preservation is particularly vulnerable one since both, paper as well as digital collections, are disappearing quickly. At the same time users demand quick and unrestricted access to full-text documentation. This is a very huge area for further work in making grey literature more relevant and better appreciated.

Indicate the Financial and Sustainable point(s) stated in the Pisa Declaration that concern your organization most

Answered: 44 Skipped: 16



Answer Choices	Responses
Identifying available funding for research involving grey literature	34.09% 15
Increased support for collection development and long term preservation of grey literature	56.82% 25
Increased investment in infrastructure and new technologies for accessing and using print and digital grey literature	63.64% 28
Total Respondents: 44	

Comments (2)

Figure 6: Survey Question No. 5

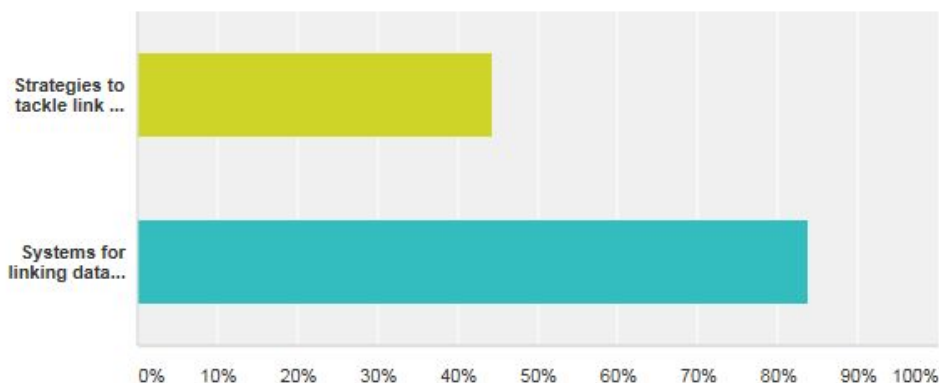
Question 6: Indicate the Technical point(s) stated in the Pisa Declaration that concern your organization most

Link rot refers to problems of hyperlinks on individual websites pointing to web pages, servers or other online resources that have become permanently unavailable. This is a problem for Internet in general, not only for grey literature. The link sustainability challenge was indicated as an issue by 44% of all respondents, although we can rightfully conclude that it affects every information provider currently running or using available websites. Question of finding, repairing and preventing broken links would require further study. Use of best practices for preventing link rot, including use of DOI numbers and PURLs requires greater attention among grey literature providers.

A completely new area of linking data and other non-technical content to their grey literature publications together with interoperability standards for sharing grey literature was almost on everyone's mind. 84% of participants indicated that as the greatest technical concern for their organization.

Indicate the Technical point(s) stated in the Pisa Declaration that concern your organization most

Answered: 43 Skipped: 17



Answer Choices	Responses
Strategies to tackle link rot and enhance the stability and accessibility of online content	44.19% 19
Systems for linking data and other non-textual content to their grey literature publications togetherwith interoperability standards for sharing grey literature	83.72% 36
Total Respondents: 43	

Comments (1)

Figure 7: Survey Question No. 6

Question 7: Is there a language(s) not listed above in which the Pisa Declaration should be translated and published? If so, please indicate here.

Pisa Declaration was drafted in English on 16 May, 2014. Due to wide interest and hard work of some of the members of the Grey Literature community, the Declaration was translated into 21 languages. They include: Armenian, Bulgarian, Croatian, Czech, Dutch, French, German, Greek, Hindi, Hungarian, Italian, Japanese, Korean, Macedonian, Russian, Serbian Cyrillic, Serbian Latin, Slovak, Spanish, Tagalog, and Turkish. All of the translated versions are available online⁷.

The intention of the question number 7 was to find out from the respondents if there was a need for translating it into some other language. The following languages were suggested for translation and inclusion: Arabic, Chinese, Portuguese, and Korean.

Question 8: Have you had the opportunity to promote public awareness to the Pisa Declaration?

Starting assumptions before drafting this survey question was an impression that grey literature in general, as well as the Pisa Declaration, were not being promoted sufficiently. Replies indicate that the assumption was correct. Most of the promotion was done through ad hoc means, such as meetings or conferences. Publishing on the organizational website, as a way for providing a more sustainable presence, was exploited by few participants only. Suggestions received through comments indicated a greater need for promoting the Pisa Declaration through training and social media.

⁷ <http://greyguide.isti.cnr.it/>

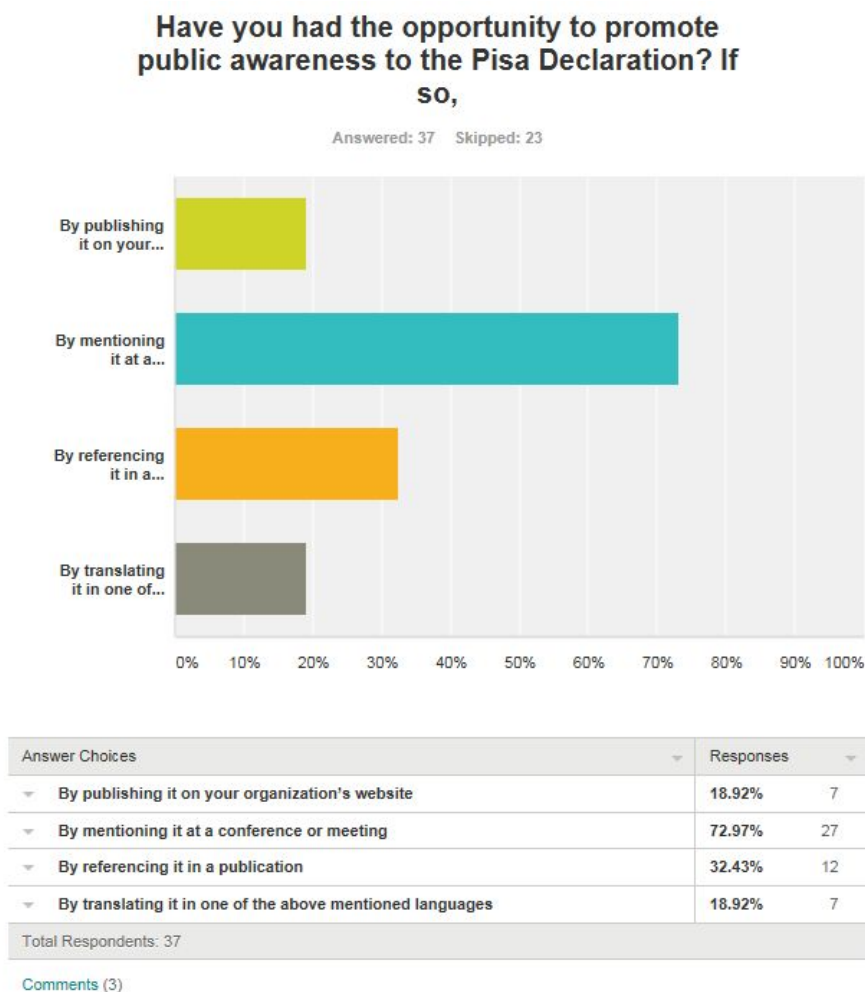


Figure 8: Survey Question No. 8

Question 9: Please take a moment to record any comments, recommendations, amendments, or additions you consider worthwhile for the Pisa Declaration to further benefit policy development for grey literature resources.

Question number 9 asked for comments, recommendations, amendments, or additions considered to be of benefits for further policy development of grey literature. There were 12 comments received. Most of them mentioned training, development of practical manuals and appropriate standards, as well as further studies. Improving awareness among users in developing countries of grey literature benefits was also mentioned.

Question 10: Your name and email address.

It was curious to notice that out of 60 survey participants 46 identified themselves by leaving their email address. This indicates some kind of devotion to the topic being surveyed and a desire to keep in contact with colleagues and learn more about future progress and developments impacting the world of grey literature.

Concluding Remarks

The outcome of the survey leads us to conclude that direct contact via GreyNet and professionals in the grey literature community account for the majority of endorsements to the Pisa Declaration. Its placement on the GreyGuide portal was significant for its formal publication and to facilitate endorsement, however this in itself accounted for the least number of signatories. Across the board, all of the points in the Pisa Declaration are still of concern to the grey literature community.

Legal issues remain the concern not only for content and service providers but also for users of grey literature. Increased investment in new technologies enabling access to the full-text as well as related research and metadata are of equal concern. However, the need to promote public awareness to grey literature is underestimated and would contribute significantly to policy development in this field of library and information science.

Appendix 1

Pisa Declaration on Policy Development for Grey Literature Resources

May 16, 2014, Pisa

Introduction

A wealth of knowledge and information is produced by organizations, governments and industry, covering a wide range of subject areas and professional fields, not controlled by commercial publishing. These publications, data and other materials known as grey literature, are an essential resource in scholarly communication, research, and policy making for business, industry, professional practice, and civil society.

Grey literature is recognized as a key source of evidence, argument, innovation, and understanding in many disciplines including science, engineering, health, social sciences, education, the arts and humanities.

Grey literature document types in print or electronic formats include among others: research and technical reports, briefings and reviews, evaluations, working papers, conference papers, theses, and multimedia content, representing an important and valuable part of research and information.

In order to realize the benefits of research and information for scholarship, government, civil society, education and the economy, We, the signatories to this declaration, call for increased recognition of grey literature's role and value by governments, academics and all stakeholders, particularly its importance for open access to research, open science, innovation, evidence-based policy, and knowledge transfer.

To achieve the full benefits of grey literature for local, national and global communities we call for and encourage the following:

Organizational

1. Greater commitment to open access by governments and organizations.
2. Greater cooperation and coordination among organizations engaged in the production, use, collection and management of grey literature.
3. The use of persistent identifiers and open metadata standards for grey literature.

Research/Educational

4. New forms of recognition and reward for quality grey literature materials by governments, universities and other institutions.
5. Improved standards in the production and bibliographic control of grey literature.
6. Development and implementation of interoperable standards in the management of grey literature.
7. Development of good practice guides for the production, dissemination, and evaluation of grey literature.

Legal

8. Changes to legal deposit and copyright law that enhance the capacities of libraries, collecting services and educational institutions and programs to collect and provide access to grey literature, particularly non-commercial public interest materials.
9. Addressing legal obstacles to the dissemination of grey literature.
10. Further strides in licensing grey content for both commercial and non-commercial purposes.

Financial/Sustainable

11. Identifying available funding for research involving grey literature.
12. Increased support for collection development and long term preservation of grey literature.
13. Increased investment in infrastructure and new technologies for accessing and using print and digital grey literature.

Technical

14. Strategies to tackle link rot and enhance the stability and accessibility of online content.
15. Systems for linking data and other non-textual content to their grey literature publications together with interoperability standards for sharing grey literature.

Appendix 2

Pisa Declaration: An Assessment Study

Pisa Declaration on Policy Development for Grey Literature Resources

In the spring of 2014, a workshop took place at the Italian National Council of Research in Pisa. The topic of this event dealt with policy development for grey literature resources. Some seventy participants from nine countries took an active part in the workshop – the outcome of which produced what is today known as the Pisa Declaration.

1. How did you first come to endorse the Pisa Declaration?

- ☐ I attended the workshop where the Pisa Declaration was drafted
- ☐ I was made aware via the GreyGuide Portal and Repository
- ☐ I was alerted by GreyNet International
- ☐ I was alerted by a colleague
- Other (please specify)

2. Indicate the Organizational point(s) stated in the Pisa Declaration that concern your organization most

- ☐ Greater commitment to open access by governments and organizations
- ☐ Greater cooperation and coordination among organizations engaged in the production, use, collection and management of grey literature
- ☐ The use of persistent identifiers and open metadata standards for grey literature
- ☐ Other (not specifically mentioned in the Declaration)

3. Indicate the Research and Educational point(s) stated in the Pisa Declaration that concern your organization most

- ☐ New forms of recognition and reward for quality grey literature materials by governments, universities and other institutions
- ☐ Improved standards in the production and bibliographic control of grey literature
- ☐ Development and implementation of interoperable standards in the management of grey literature
- ☐ Development of good practice guides for the production, dissemination, and evaluation of grey literature
- Other (not specifically mentioned in the Declaration)

4. Indicate the Legal point(s) stated in the Pisa Declaration that concern your organization most

- ☐ Changes to legal deposit and copyright law that enhance the capacities of libraries, collecting services and educational institutions and programs to collect and provide access to grey literature, particularly non-commercial public interest materials
- ☐ Addressing legal obstacles to the dissemination of grey literature
- ☐ Further strides in licensing grey content for both commercial and non-commercial purposes
- Other (not specifically mentioned in the Declaration)

5. Indicate the Financial and Sustainable point(s) stated in the Pisa Declaration that concern your organization most

- ☐ Identifying available funding for research involving grey literature
- ☐ Increased support for collection development and long term preservation of grey literature
- ☐ Increased investment in infrastructure and new technologies for accessing and using print and digital grey literature
- Other (not specifically mentioned in the Declaration)

6. Indicate the Technical point(s) stated in the Pisa Declaration that concern your organization most

- ☐ Strategies to tackle link rot and enhance the stability and accessibility of online content
- ☐ Systems for linking data and other non-textual content to their grey literature publications together with interoperability standards for sharing grey literature
- Other (not specifically mentioned in the Declaration)

Two years on, the Pisa Declaration has been translated and published in nearly twenty languages: Armenian, Bulgarian, Croatian, Czech, Dutch, French, German, Greek, Hindi, Hungarian, Japanese, Korean, Macedonian, Russian, Serbian, Spanish, Tagalog, and Turkish – all of which are online accessible via the GreyGuide Repository and Portal.

7. Is there a language(s) not listed above in which the Pisa Declaration should be translated and published? If so, please indicate here.

8. Have you had the opportunity to promote public awareness to the Pisa Declaration? If so,

- ☐ By publishing it on your organization's website
- ☐ By mentioning it at a conference or meeting
- ☐ By referencing it in a publication
- ☐ By translating it in one of the above mentioned languages
- Other (please specify)

Feedback from those who endorsed the Pisa Declaration is thought to provide an up-to-date roadmap serving diverse communities involved in research, publication and the management of grey literature resources

9. Please take a moment to record any comments, recommendations, amendments, or additions you consider worthwhile for the Pisa Declaration to further benefit policy development for grey literature resources.

10. Your name and email address

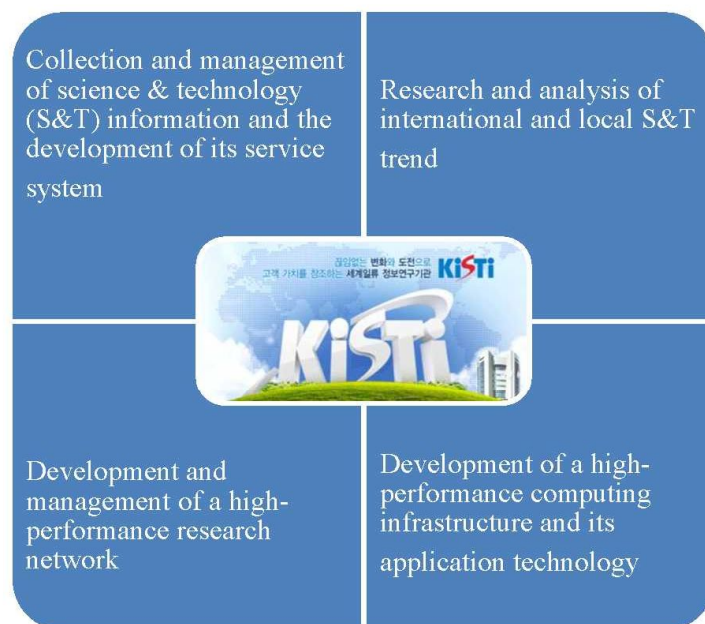
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Debate about Scientific Popularization in Russian Public Sphere based on Grey Literature Material*

Yuliya B. Balashova (Russia)

Abstract

The article is devoted to the problematic field associated with the popularization of science, in the reflection of the grey literature. In Russia, the public sphere is arranged in such a way that still many important issues do not discussed in the press, but on various discussions, which materials fixed in the grey literature.

Keywords: grey literature, popular science journalism, debate about scientific popularization, Russian public sphere.

Introduction

At the present time, in Russian increased public interest to scientific problematic. Knowledge itself is a value in all times. Traditionally, science held a high position in Russian society, was vastly included into the public sphere. In Soviet times, the unique model of communication between science and society has been designed, and it didn't duplicate Western experience. Now in Russia a significant number of different activities, related to the science promotion, begin to be carried out. Different conferences, public discussions host in different regions of the country. Media begin to show more interest in all issues of science communication. However, in most cases, evidences of this discussion most accumulated not in the media, but in the grey literature. This is a very interesting phenomenon, peculiar exactly to the Russian public sphere. Traditionally, the most important questions of the public life were not fully reflected in the media. Historically, they informally discussed in friendly circles, clubs, recorded in protocols of the various societies, and in private correspondence (Aronson, M., and Reyser, S., 2000). These documents can be considered as prototype of the "grey literature". Even in the middle of the 19th century in Russia verbal social communication is still in many cases prevailed over writing (Pirozhkova, T. F., 1997). This trend continued in the conditions of Soviet life. In the late Soviet period, the most pressing social issues were discussed mostly in the locker rooms, at the kitchens in the apartments. But in Soviet times, science had a great reputation in the society and seriously supported by the state.

In the modern Russia, science became one of the most important national priorities again. The process of science popularization was broken in the post-Soviet time. As a result, in this area have been accumulated a lot of problems. One of the most significant problems lies in the fact that science in Russia is not sufficiently mediatized. Therefore, actual discussion about the ways of science development is mostly accumulated in grey literature.

Organisation and methodology of research

The main method of research is the method of participant observation. The author engaged into the process of science popularization in the aspects of education, research, as well as in the public activities. I am myself the creator and the head of the new master's program "Popular science journalism", which started two years ago at Saint Petersburg State University, Russia. The author also is the organizer and participant in a number of scientific conferences, discussions, seminars, devoted to science communications, and science promoting. There materials are mainly reflected in the conference programs and post-releases. Accordingly, they are available to a relatively small circle of interested parties. This is the main reason why this discussion is centered around the same issues forming a hermeneutic circle.

The debates basically come down to two main issues that have a pronounced methodological nature.

The first of them is the following question: are journalists able to popularize science? A positive answer to this question has long been known. However, here is occurred

* First published in the GL18 Conference Proceedings, February 2017

polarization of the points of view. Russian scientists believe that science journalists and writers are only make harm (Ivanov, I., 2007). Representatives of the communicative sphere are confident that Russian scientists themselves at the moment are not able to explain to the public the essence of their work (Vaganov, A. G., 2007).

Model of the knowledge in the West is based on the separation of science / art. In such logocentric country, like Russia, this dichotomy is not entirely justified. The very type of national consciousness tends to traditionalism and syncretism. In addition, Russia has not had the historical preconditions for the formation of narrow specialization. One of the most significant cultural reasons is not as consistent as compared with the Western Europe a Russian classic hierarchy development. The idea of the commonwealth of sciences is central to the whole tradition of the national popular science journalism. In the classic Russian "thick" magazines: "Contemporary" ("Sovremennik"), "Notes of the Fatherland" ("Otechestvennyye zapiski") departments of science and literature were mixed. The first issue of the Russian brand of popular science journalism was published in 1890. We are talking about the magazine "Science and life" ("Nauka i zhiz'n"), positioned itself as a "literary, artistic, social, and popular-science magazine". All subject areas were representative in terms of cognition; pre-revolutionary "Nauka i zhiz'n" was opened by mixed department "Science and art". In the popular science magazine science was presented as knowledge of the whole world. Approach to the understanding of scientific knowledge as universal knowledge was very typical to the classical Russian popular science magazine.

Another issue causing debate: is it necessary to popularize humanities? In modern Russian scientific environment has developed evaluative attitude towards humanitarian knowledge as opposed to natural science. In this sense, a logical continuation should be implicit question: "Is humanities research?". Russian grey literature paradoxically convinced that only natural and technical knowledge is a true science. So, here is a characteristic split in modern Russia between humanitarian and natural science. However, exactly humanitarian component has been put into the base of the Russian system of knowledge publicity. Historically has been accumulated considerable experience in the public implementation of humanities: from scientific and popular publications to educational films and lectures (Balashova, Yu. B., 2014).

The main body of the Russian grey literature related to the topic of pseudoscience and the fight against pseudoscience. So, in 1998 on the base of the Russian Academy of Sciences was created the special "Commission Against Pseudoscience and Falsification of Scientific Research". It has a coordination character, also publishes an annual bulletins "In Defense of Science", and conducts a variety of scientific and educational activities. But we have to note that passion for combating pseudoscience appears to be the legacy of the Soviet exposing companies. The latest trend of struggle against pseudoscience, in our view, does not introduce new meanings in a conversation about science popularization, as calls for a system of prohibitive measures, and based on the rhetoric of annihilation.

Discussion

In those cases, when discussion about science popularization proceeds to the media, it does not become more meaningful because it not bases on the previous experience, reflected in the grey literature. As an example, we give a representative event, which was held on June 28, 2016 in the upper house of the Russian parliament – the Federation Council.

It had potential of a large conference and represented a constructive attempt to combine different participants of the objectively difficult process of scientific popularization. Among them were representatives of the university and academic community, science journalists. Within the framework of this debate it was able to overcome the estimated range of conflicting judgments accompanying discussion around the problem field: science – journalism.

During the speeches sounded the idea that society needs a popular science again. The authority of the Russian science remains the highest in the world, but it lacks the publicity. Therefore, the Russian scientific sphere in particular, needs a mediator between knowledge and society. In the developed in science promotion countries, and especially the United

States, the ability to external communications is competence of the modern scientist, and any academic institution is accompanied any serious research by information campaign.

Despite the constructive nature of the discussions, this event caused a negative response in the press. The author of the negative response in the leading popular science Russian newspaper "Troitsky variant" (under the name of Moscow suburb) was a student (or may be – graduate student) (Troitsky variant, 2016). In accordance with her position, the government is not able to organize this kind of events, as, indeed, to engage science popularization. This position, in principle, contrary to all history and practice of science popularization in Russia. In addition, this view completely ignores the experience of similar events, reflected in grey literature.

From my side, I acted in the same newspaper with an alternative evaluation (Troitsky variant, 2016). And this position received support in the other media (Ecology and life, 2016).

If the discussion on the issues about science popularization takes into account a variety of materials published in grey literature, it would be much more constructive.

Conclusion

Materials of the different conferences and events, discussion in the blogosphere make up the range of sources about science popularization that require reflection. The scientific studies of the nature, content, specific aspects of the science popularization in modern Russia practically not involved.

Meanwhile, the controversy in the public space towards the popularization of science is centred on those issues that have long known. In the field of public actively discussed the issue could journalist popularize science or not. In Soviet times, the objective of which was to raise the level of the mass audience to scientific, science successfully popularized as the scientists themselves, as well as journalists. A similar situation typical for the Western press too.

Russian public sphere as a whole is arranged in such a way that in order to create a more holistic view of what is happening, it's necessary to appeal to grey literature.

Acknowledgment

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Ethics

This article is original and contains unpublished material. The authors confirm that there are no ethical issues involved.

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Data from “Linking full-text grey literature to underlying research and post-publication data: An Enhanced Publications Project 2011-2012”¹

<https://doi.org/10.17026/dans-zca-t9k5>

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Abstract

The data collected is based on the responses of fifty authors/researchers, who have presented full-text papers published in the International Conference Series on Grey Literature. The dataset consists of ten questions, three of which are open-ended. The data contains the number and percentages of responses to questions dealing with the author’s own empirical research data, its current availability, and the author’s willingness to archive the data and make it openly accessible. The data in this study was collected and computer analyzed via Survey Monkey, where it remains stored along with a copy in Excel housed in the DANS Easy Archive. The data from the study was collected in 2011 within the framework of an enhanced publications project². Since then, emphasis on data preservation, open access, and the reuse of data has increased exponentially. This data from six years ago offers a valuable baseline that would allow for a follow-up questionnaire in part or whole. Hereby, one would stand to gain insight into changing attitudes and practices within GreyNet’s research community and renders potential (re)use by other professional research communities.

Keywords: Enhanced Publication; Linking Data; Attitude Change; Data Sharing

Subject Area: Information Science

Methods

● Steps

In producing the intended dataset a questionnaire was drawn-up and implemented using the freeware ‘Survey Monkey’³. The questionnaire contains ten queries set off in pairs each of which is preceded by a subheading. These subheadings are considered relevant in achieving informed responses. The three open-ended questions allowed for specific and detailed responses that were later categorized in order to facilitate further analysis of the data. Responses to the open-ended questions contained the names and email addresses of the respondents. Seen as source data, this allowed for insight into the geographic region of the respondents, their most recent affiliation with the GL-Conference Series, and their gender.

● Sampling strategy

The population of the survey was selected from among the 286 authors and co-authors in the International Conference Series on Grey Literature. It was decided that only first authors would receive the questionnaire, which narrowed the potential population of the survey to 162 authors of which only 95 were actually sent the online questionnaire. The reason the other 67 first authors were not included in the final survey population

was due to a number of factors such as no current email address, retired, deceased, etc. The final results are based on the response of 50 of the 95 survey recipients, which amounts to roughly a 53% response rate.

- Quality Control

While there was no specified control on the data, one may assume that if a respondent is willing to provide his/her name and email address some level of guarantee of the data could be expected.

Dataset Description

File name:	Farace et al.xlsx
Format name and version:	Excel 2010
Creation dates:	From 2011-06-22 to 2011-09-28
Language:	English
License:	CC0 Waiver - no rights reserved
Archive name:	DANS EASY Archive
Publication date:	2013-02-14

Potential Reuse

The data derived from this questionnaire allows for reuse not only by grey literature communities such as GreyNet but also by other diverse information communities exploring a coherent policy for the collection and sharing of research data. Even six years since the publication of the data and its original analysis, the data still allows for further use, other interpretation, and would serve well in a comparative study. Even though the data is openly accessible and bears a persistent identifier, its potential for reuse would increase with citations and references made possible by way of this data paper. The reuse of the data would further serve to validate its content by demonstrating its adherence to the FAIR-data Principles⁴. One specific reuse of the data will serve as part of a case study in a workshop on Data Papers demonstrating the value of this new document type of grey literature for researchers and data management librarians alike.

Nevertheless, as with long-tail research, limitations of this data can be its size. Fifty respondents do not actually allow for an accepted expression of results in percentages. There is also a potential barrier to the original data, which was compiled and stored via Survey Monkey. This could prove an obstacle, even though a copy of the dataset is openly accessible in the DANS EASY Archive⁵, which provides a Data Seal of Approval, DSA⁶.

References

- ¹ Farace, D., [et al] 2012 Linking full-text grey literature to underlying research and post-publication data: An Enhanced Publications Project 2011-2012. Thirteenth International Conference on Grey Literature. http://www.opengrey.eu/data/70/01/53/GL13_Farace_et_al_2012_Conference_Preprint.pdf
- ² GreyNet's Enhanced Publications Project: Tracking and Backtracking Data, 2012 <http://greyguide.isti.cnr.it/index.php/49-gl14/gl14-slide-share/416-gl14-farace-et-al-2>
- ³ SurveyMonkey, A Survey Platform <https://www.surveymonkey.com/home/>
- ⁴ FAIR-Data Principles <https://www.force11.org/group/fairgroup/fairprinciples>
- ⁵ DANS EASY Archive <https://easy.dans.knaw.nl/ui/home>
- ⁶ DSA, Data Seal of Approval <https://www.datasealofapproval.org/en/>

Appendix

Data Paper Template, Version 1.0

This template provides you with a standardized, accepted format for drafting a data paper. Please consult the note box found under each field name for brief explanations and examples. The Data Paper consists of five main sections: ① Overview, ② Methods, ③ Dataset Description, ④ Potential Reuse, and ⑤ References.

Once you have completed drafting your data paper, please submit to journal@greynet.org. Upon receipt, the preprint will be deposited in the [DANS Data Archive](#) where the dataset is stored. Further notice of its publication in [The Grey Journal](#) will likewise be provided. The above email address can be used for all correspondence pertaining to your data paper.

① Overview

Title:

NOTE The title of the data paper should focus on the **data**. Since your data is closely linked to a specific research paper, precede the title of your paper with “Data from [followed by the Title of your paper]”.

Repository Location:

NOTE A link to the repository home page and a DOI (or other persistent identifier) that links directly to the dataset.

Data Paper Authors/Contributors, Affiliations, and Roles:

NOTE

1. ▪ First name, Last name;
 - Author/Contributor unique ID (e.g. ORCID, ResearcherID)
 - Organizational Affiliation;
 - Author’s Role(s): Project Administration / Dataset Creator / Visualization / Draft Text / Review & Editing

2. ...

3. ...

Abstract:

NOTE A short (ca. 100 words) summary of the dataset being described: what the data covers, how it was collected, how it is stored, and a short description of its potential reuse.

Keywords:

NOTE A maximum of four keywords is allotted. Each keyword is separated by a semicolon followed by a space.

Subject Area:

NOTE Discipline or Community of Practice (e.g. Medicine, Engineering, Physics, etc.)

② Methods

NOTE Describe the methods used to create the dataset (ca. 100-200 words), include the following sub-headings:

Steps – The series of procedures followed to produce the dataset. This should include any source data used, as well as software and instrumentation involved.

Sampling strategy – If relevant, outline the sampling strategy used to produce the data.

Quality Control – If applicable. Please list the methods used for quality control in the production of the data *i.e.* steps taken to normalize data.

3 Dataset Description

NOTE Enter your response after each sub-heading

File name:

The name of the file or file set in the repository/archive.

Format names and versions (if available):

Such as ASCII, CSV, Autocad, EPS, JPEG, Excel, SQL, etc.

Creation dates:

The start and end dates of when the data was created YYYY-MM-DD

Language(s):

Languages used in the dataset (*i.e.* variable names, etc.)

License

The open license under which the data has been deposited is Creative Commons, *e.g.* CC0.

Repository/Archive name:

The name of the repository/archive to which the data is uploaded: DANS EASY, Etc.

Publication date

The date the dataset was published in the repository/archive (YYYY-MM-DD)

4 Potential Reuse

NOTE Please describe the ways in which your data could be reused by other researchers both within and outside of your field. For example, this might include aggregation, further analysis, reference, validation, teaching or collaboration. This section should also include limitations to, or potential barriers for reuse. (maximum 800 words)

5 References

NOTE References cited here should be explicit to the Data Paper. When available, include a DOI, other persistent identifier, or link in each reference. See examples below:

1. Piwowar, H.A. 2011 Who Shares? Who Doesn't? Factors Associated with Openly Archiving Raw Research Data. *PLoS ONE* 6(7): e18657. DOI: <http://dx.doi.org/10.1371/journal.pone.0018657>.
2. Giannini, S., [et al] CNR Pisa, Italy, 2016 Grey Literature citations in the age of Digital Repositories and Open Access. Seventeenth International Conference on Grey Literature. Conference Preprint available from: <http://hdl.handle.net/10068/1024659>.
3. National Heart Lung and Blood Institute (US). What is a heart attack? [Internet]. Bethesda (MD): U S Department of Health and Human Services, National Institutes of Health; [cited 2009 Apr 3]. Available from: <http://www.nhlbi.nih.gov/actintime/aha/what.htm>.

Upon completion of your Data Paper, please submit to journal@greynet.org.

The email can also be used for all other correspondence pertaining to your Data Paper.

Thank You!

Data from “The GreyLit Report: Understanding the Challenges of Finding Grey Literature¹”

<https://doi.org/10.17026/dans-2z8-x27y>

Danielle Aloia, New York Medical College

ORCID 0000-0001-8775-4654

Dataset Creator

Robin Naughton, New York Academy of Medicine

ORCID 0000-0003-1242-6538

Review & Editing

Abstract

The data, in this case, consist of a bibliography of 297 full text papers analyzed for a literature review. The data was collected using PubMed and the full-text papers were analyzed using the search feature in Adobe PDF to count word hits. All papers were scanned manually for search strategy reporting methods. The full-text can provide a more robust analysis of search strategies and tools used in systematic review research than the abstract. This data can be helpful in the future when trying to understand the search strategies for finding grey literature for systematic reviews and how to report search results in a paper.

Keywords: Data analysis; Systematic reviews; Literature reviews; Data Sharing

Subject Area: Information Science

Methods

● Steps

PubMed search: (“grey literature” OR “gray literature”) Limits: English, review, and within 5 years). This search yielded over 1500 results. These results were paired down to over 400. Approximately, 103 were excluded for various reasons:

- Fifty-seven focused on grey literature search strategies for systematic reviews,
- Twenty-one didn’t report how or where they searched, so we were unable to determine the search methodology,
- Twelve didn’t report how or where they searched,
- Twelve papers indicated they just searched the traditional databases PubMed, Web of Science to locate grey literature,
- Six we were unable to obtain the full text of the article,
- Five of the articles only reported on the selection bias of not including grey literature in the systematic review, and
- Three papers mentioned explicitly that they excluded including grey literature in their searches.

● Sampling strategy

The citation results were analyzed using the full-text article. It was found that the abstract wasn’t robust enough to determine the search strategies reported in the paper.

● Quality Control

Full text peer-reviewed papers were chosen from one citation database, PubMed.

Dataset Description

File name:	GL18-S4P-Aloia and Naughton (Appendix).pdf
Format name and version:	PDF file
Creation dates:	From 2016-08-01 to 2016-10-31
Language:	English
License:	CC0 Waiver – no rights reserved
Archive name:	DANS EASY Archive
Publication date:	2017-01-01

Potential Reuse

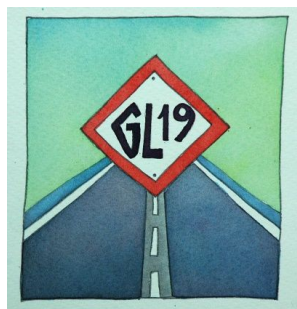
The citations may be used to understand reporting procedures for systematic reviews, to find a model paper to use as a guideline for reporting procedures, or reproduce the study. As the data gets older, researchers can start with new data from 2016-2017 forward.

Reference

-
- ¹ Aloia, D and Naughton R. 2016. The GreyLit Report: Understanding the Challenges of Finding Grey Literature. Seventeenth International Conference on Grey Literature.
http://www.opengrey.eu/data/01/02/46/51/GL17_Aloia_and_Naughton_2015_Conference_Preprint.pdf

Nineteenth International Conference on Grey Literature

Public Awareness and Access to Grey Literature



National Research Council of Italy

Piazzale Aldo Moro 7, Rome, Italy • October 23-24, 2017

Day One – Conference Program

08:30  **REGISTRATION DESK OPENS WITH COFFEE AND TEA SERVICE**

09:00 **OPENING SESSION - WELCOME AND KEYNOTE ADDRESSES FOLLOWED BY THE OPENING PAPER**

Welcome Address

▶ *Alberto De Rosa, National Research Council of Italy, CNR Central Library, Rome, Italy*

Keynote Address

▶ *Imma Subirats, Food and Agriculture Organization of the United Nations, FAO*

Opening Paper

▶ *Silvia Giannini, Rosaria Deluca, and Stefania Biagioni, ISTI-CNR, Pisa, Italy*

MODERATOR DAY ONE – MARGRET PLANK, GERMAN NATIONAL LIBRARY OF SCIENCE AND TECHNOLOGY

11:00  **SESSION 1 – EXPOSING GREY LITERATURE TO WIDER AUDIENCES**

▶ **The Incorporation of Grey Literature into a newly formalized Research Services Program**

Charles Scott Dorris, Dahlgren Memorial Library; Georgetown University, United States

▶ **Indexing of Special Collections for Increased Accessibility**

Judith C. Russell, University of Florida, and Marjorie M.K. Hlava, Access Innovations, United States

▶ **Data Visualization of a Grey Literature Community: A Cooperative Project**

Roberto Bartolini, Sara Goggi, Gabriella Pardelli, and Irene Russo, ILC-CNR Italy;

Dominic Farace and Jerry Frantzen, GreyNet International, Netherlands

▶ **Public Access to the Dissertations in Russia**

Yuliya B. Balashova, Saint Petersburg State University, Russia

13:30  **SESSION 2 – CONFRONTING OBSTACLES IN ACCESSING GREY LITERATURE**

▶ **How open access policies affect access to GL in university digital repositories: A case study of iSchools**

Tomas A. Lipinski and Katie Chamberlain Kritikos, University of Wisconsin at Milwaukee, United States

▶ **Law, Liability, and Grey Literature: Resolving Issues of Law and Compliance**

Daniel C. Mack, University of Maryland, United States

▶ **Indexing grey multilingual literature in General Practice in the era of Semantic Web**

Marc Jamoulle, Department of General Practice, University of Liège, Belgium; [et al]

▶ **Grey Literature of Health NGOs in Pakistan**

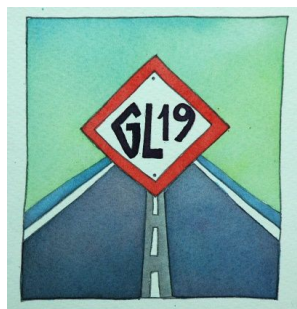
Mahjabeen Ali, School of Librarianship, PBWG Karachi, Pakistan

15:30  **INTRODUCTION TO CONFERENCE POSTERS AND SPONSOR SHOWCASE**

On the afternoon of Day One, each person presenting a poster will have the opportunity to introduce their work in the Main Conference Hall. The Poster Session and Sponsor Showcase will continue on the morning of Day Two in the Digital Poster Corridor, where the presenters will be able to meet with conference delegates and participants in an informal setting. On May 15th the formal Call for Posters will be launched - closing one month prior to the conference or when all available poster slots have been filled. Authors presenting posters are not required to submit a full-text manuscript. However, if they so choose, it will also be eligible for publication in the GL19 Conference Proceedings. Those presenting during the conference Poster Session and Sponsor Showcase will have a chance to win the **Poster Prize 2017**.

Nineteenth International Conference on Grey Literature

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National Research Council of Italy

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Day Two – Conference Program

09:00  **REGISTRATION DESK OPENS WITH COFFEE AND TEA SERVICE**

09:30 **POSTER SESSION AND SPONSOR SHOWCASE**

The **Call for Posters** closes on September 25, 2017
Guidelines and due dates are available on the conference site

<http://www.textrelease.com/gl19callforposters.html>

Moderator Day Two – Judith C. Russell, George A. Smathers Libraries, University of Florida

11:00  **PANEL SESSION – Innovations in Grey Literature powered by Research Data**

► **Data Papers are Witness to Trusted References in Grey Literature**

Dominic Farace and Jerry Frantzen, GreyNet, Netherlands; Plato L. Smith, University of Florida Libraries, United States

► **A Facet-based Open and Extensible Resource Model for Research Data Infrastructures**

Leonardo Candela, Luca Frosini, and Pasquale Pagano; ISTI-CNR, Italy

► **D4Humanities: Deposit of Dissertation Data in Social Sciences & Humanities – A Project in Digital Humanities**

Joachim Schöpfel, GERiiCO Laboratory, University of Lille; Hélène Prost, CNRS, associate GERiiCO Laboratory, France

► **Assessing the FAIRness of Data Sets in Trustworthy Data Repositories**

Peter Doorn, Data Archiving and Networked Services, DANS-KNAW, Netherlands

13:30  **SESSION 3 – IMPACT OF EMERGING TECHNOLOGIES & SOCIAL MEDIA ON GREY LITERATURE**

► **Social Media Matters: Showing Up Online as Well as Ontime**

Julia M. Gelfand, University of California, Irvine Libraries, and Anthony Lin, Irvine Valley College Library, United States

► **Increasing Public Awareness of Grey Literature through Social Media**

Snježana Čirković, Austrian Academic Library Consortium, Austria

► **Preserving and accessing content stored on USB-flash-drives: A TIB workflow**

Oleg Nekhayenko, German National Library of Science and Technology, TIB, Germany

► **Impact of Emerging Information Technologies on Grey Literature**

Dobrica Savić, Nuclear Information Section, International Atomic Energy Agency, NIS-IAEA, Austria

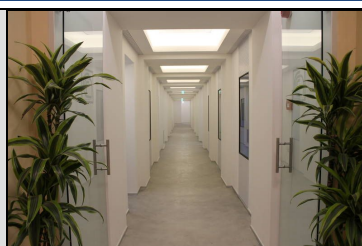
► **Apps & Codes: Making profiles for fluid publishing contents**

Flavia Cancedda and Luisa De Biagi, National Research Council of Italy, CNR Central Library, Italy

15:15  **CLOSING SESSION – REPORT MODERATORS, BEST POSTER, CONFERENCE HANDOFF, FAREWELL**



Main Conference Hall



Digital Poster Corridor

TextRelease

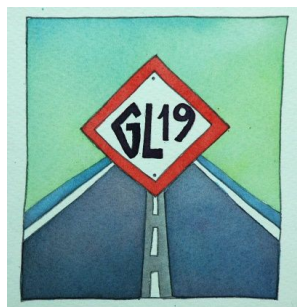
GL19 Program and Conference Bureau

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www.textrelease.com • conference@textrelease.com

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Nineteenth International Conference on Grey Literature

Public Awareness and Access to Grey Literature



National Research Council of Italy

Piazzale Aldo Moro 7, Rome, Italy • October 23-24, 2017

Call for Posters

Title of the Poster:

Presenter Name(s):

Organization(s):

Postal Address:

Postal Code - City - Country:

Conference Topic(s):

Phone:

Fax:

Email:

URL:

Participants who seek to present a poster during GL19 are invited to submit an English abstract between 300-350 words. The abstract should describe the project and/or related information product or service. The abstract should likewise include a title, name(s) of the presenter(s) and their full address information. Abstracts are an important source of information available prior to the conference that is accessible to both the delegates and conference participants.

Conference Related Topics

☐ Exposing Grey Literature to Wider Audiences

☐ Confronting Obstacles in Accessing Grey Literature

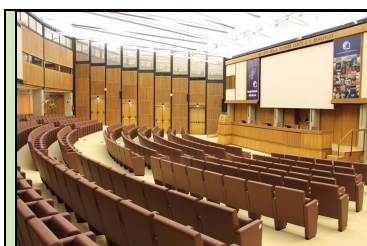
☐ Innovations in Grey Literature powered by Research Data

☐ Impact of Emerging Technologies and Social Media on Grey Literature

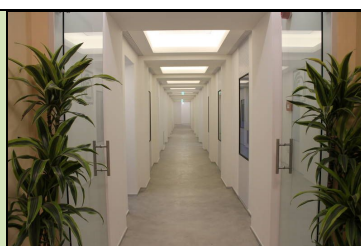
☐ Other Proposed Topic:

Due Date and Format for Submission

Timely registration is a guarantee of your placement on the conference program. The conference venue is only able to accommodate a limited number of digital and physical posters. Abstracts in MSWord should be emailed to conference@textrelease.com on or before September 25th 2017. Those submitting poster abstracts will receive verification upon receipt and this will be accompanied by further guidelines for posters, submission of PowerPoint slides, Conference Registration, etc.



Main Conference Hall



Digital Poster Corridor

TextRelease

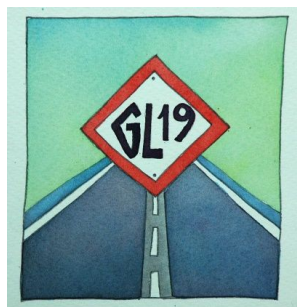
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Conference Registration

The Conference Registration Fee includes attendance during the Plenary, Panel, and Poster Sessions, a copy of the GL19 Program Book, the full-text of the Conference Papers and PowerPoint Slides along with the conference pouch and participant badge. Also included are lunches and refreshments during the morning and afternoon breaks.

Payment after September 15th 2017 add a €uro 50 Surcharge

☐ €uro 495 Participant Fee ☐ €uro 395 Author Fee ☐ €uro 275 Day Pass ☐ €uro 100 LIS Student

☐ *GreyNet* Member entitled to a 20% reduction on the conference fee.

☐ Affiliate of the National Research Council of Italy entitled to a 20% reduction on the fee.

Registrant's Name: _____

Organization: _____

Address/P.O. Box: _____

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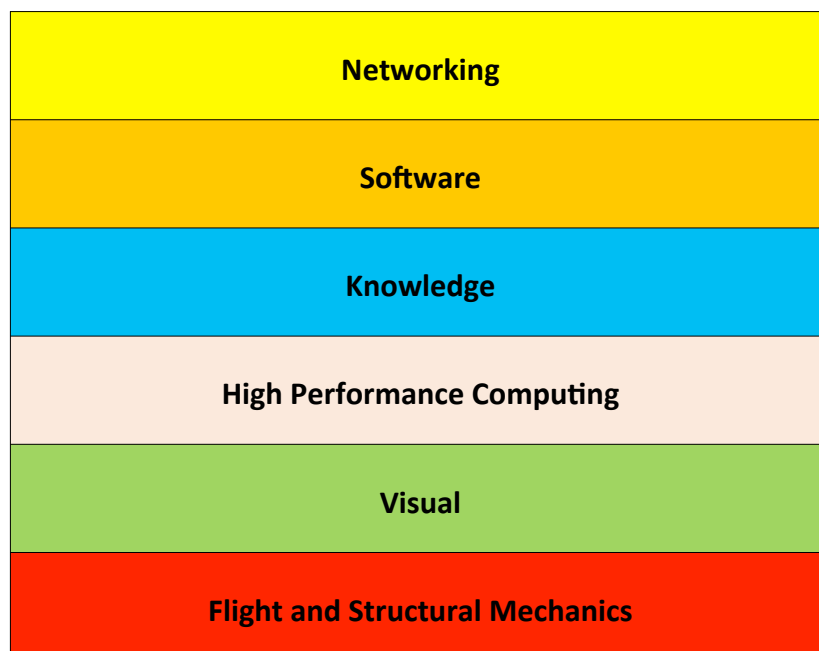
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Carlo Carlesi, graduated in Computer Science, worked since 1970 at the IEI (now ISTI) of the Italian National Research Council in Pisa. His interest are focused in many software engineering field such as: Development of data base systems, Software quality and testing, Administration and UNIX system management, Digital library systems, Network security and management. In the year 2000-2010 he was head of the "Information Technology Security Service" of the Institute. He participated in many national and international projects, the last being: Italian Project for Research in the Antarctic - (South Pole project), the aim of the project was the creation of a Multidisciplinary Integrated Information System to manage and query the Set of Antarctic Data Bases; ERCIM Technical Reference Digital Library - (ETRDL Project), The Digital Library service allows public access through Internet to the technical reports and other not

published document produced by several organizations. It is currently a Research Associate of the Institute ISTI and he is involved in the following projects: PUMA - Publication Management. The Digital Library service allows public access (when permitted) through Internet to the published documents produced by CNR Organizations. GreyGuide - Guide to Good Practices and Resources in Grey Literature. An online forum and repository of good practice and resources in the field of grey literature. Email: carlo.carlesi@isti.cnr.it

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Luisa De Biagi got her Laurea Degree in Literature and Philosophy at 'La Sapienza' Univ. of Rome (Art history and Cultural heritage). With a Specialization in 'Archivist-Palaeographer' (Vatican School of Palaeography, Diplomatics and Archivistics at the Vatican Secret Archive) as well as a Specialization Degree in Archivistics, Palaeography and Diplomatics (Archivio di Stato, Rome) and a Degree from the Vatican School of Library Sciences. De Biagi further holds a Master in 'Business Publishing' (LUISS Management - Rome). She's been working for the SIGLE Network (System for Information on Grey Literature in Europe) since 2002, Since 2010 she's is responsible for the Italian National Referring Centre of Grey Literature at CNR Central Library 'G. Marconi' as representative of the European Network and Openarchive OpenGrey. She's taken part in 3 editions of GreyNet's GL Conference Series (GL5 Amsterdam, GL13 Washington DC, GL14 Rome and GL15 Bratislava). She's is also a member of the CNR Working Group for Cedefop-Refernet Project (Consortium for Professional Education and Training coordinated by ISFOL), the Committee for Legal Deposit Acquisition at CNR Central Library, and a member of the European Association of Health Information and Libraries (EAHIL). She's also responsible for the Library Functional Units 'Education and Training' and 'Cultural Activities Management', organizing didactics laboratories for students, professional training courses and teaching in professional trainings for librarians, students and users. Email: luisa.debiagi@cnr.it

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Dominic Farace is Head of GreyNet International and Director of TextRelease, an independent information bureau specializing in grey literature and networked information. He holds degrees in sociology from Creighton University (BA) and the University of New Orleans (MA). His doctoral dissertation in social sciences is from the University of Utrecht, The Netherlands, where he has lived and worked since 1976. After six years heading the Department of Documentary Information at the Royal Netherlands Academy of Arts and Sciences (SWIDOC/KNAW), Farace founded GreyNet, Grey Literature Network Service in 1992. He has since been responsible for the International Conference Series on Grey Literature (1993-2013). In this capacity, he also serves as Program and Conference Director as well as managing editor of the Conference Proceedings. He is editor of The Grey Journal and provides workshops and training in the field of grey literature. Email: info@greynet.org

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Naughton, Robin

Robin Naughton, PhD is the Digital Systems Manager for the New York Academy of Medicine. Prior to joining the Academy, Dr. Naughton was a Digital Consultant with LearningExpress, an EBSCO company, and Oxford University Press, English Language Teaching. She received an Institute of Museum and Library Services (IMLS) fellowship for digital librarianship, and completed her PhD in Information Science from Drexel's College of Computing and Informatics in 2012. Dr. Naughton is a user-centered researcher focused on human-computer interaction (HCI) and mental models, specifically how to design and build interactive systems that are useful, easy to use and enjoyable. Email: rnaughton@nyam.org

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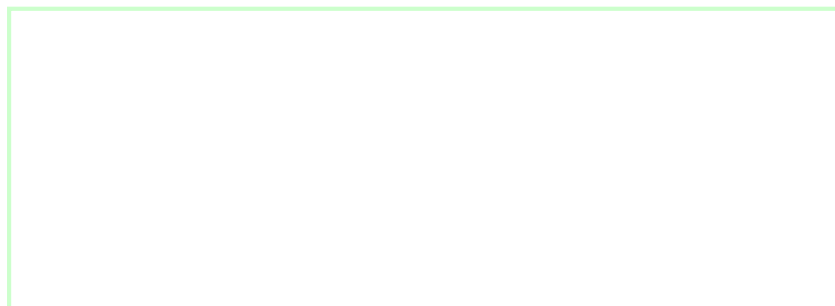
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An International Journal on Grey Literature **'MAPPING CROSSROADS IN THE FIELD OF GREY LITERATURE'**

TGJ Volume 13, Number 3 2017

GreyNet's Focus on Science and Society: Attention to Research and Community	142
<i>Dominic Farace (Netherlands)</i>	
Paradigm Shifts in Government Information Education	145
<i>Debbie L. Rabina and Julia Robbins (United States)</i>	
'Grey Crossroads' in Cultural Heritage Preservation and Resource Management	160
<i>Luisa De Biagi and Roberto Puccinelli (Italy)</i>	
Policy Development for Grey Literature Resources: An Assessment of the Pisa Declaration	167
<i>Dobrica Savić (Austria), Dominic Farace and Jerry Frantzen (Netherlands);</i> <i>Stefania Biagioni and Carlo Carlesi (Italy); Herbert Gruttemeier and Christiane Stock (France)</i>	
Debate about Scientific Popularization in Russian Public Sphere based on Grey Literature Material	179
<i>Yuliya B. Balashova (Russia)</i>	
Data from "Linking full-text grey literature to underlying research and post-publication data: An Enhanced Publications Project 2011-2012"	182
<i>Dominic Farace and Jerry Frantzen (Netherlands); Plato L. Smith (United States)</i>	
Data from "The GreyLit Report: Understanding the Challenges of Finding Grey Literature "	186
<i>Danielle Aloia and Robin Naughton (United States)</i>	

Colophon	138
----------------	-----

Editor's Note	141
---------------------	-----

On The Newsfront

GL19 Conference Program – Nineteenth International Conference on Grey Literature, Rome, Italy on October 23-24, 2017	188
GL19 Call for Posters – 'Public Awareness and Access to Grey Literature' Submissions close on September 25, 2017	190
GL19 Conference Registration – <i>Early registration closes September 15, 2017</i>	191

Advertisement

PsycEXTRA EBSCO	140
KISTI, Korea Institute of Science and Technology Information	178
ISTI-CNR, Istituto di Scienza e Tecnologie dell'Informazione "A. Faedo", Italy	192

Author Information	193
--------------------------	-----

Notes for Contributors	195
------------------------------	-----