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INSTITUTIONAL GREY LITERATURE IN UNIVERSITY ENVIRONMENT

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PROLOGUE

Initially, attention to grey literature in the academic library was focused on external collections, documents produced by government agencies or research centers. Little, if any, systematic attention was paid to the grey literature that was produced on university campuses. The advent of the Web, while bringing more interest to grey literature in general did not change this situation much. However, the trend toward the creation of institutional repositories has caused a considerable shift in interest. The formalization of collecting, processing and integrating academic institutional gray literature should be critical to the University's mission, irrespective of format, and irrespective of the existence of an active institutional repository.This paper reviews an earlier-in-the-decade study of academic gray literature and provides an updated perspective.

In the academic environment, there is an extraordinary emphasis on peer reviewed, formally published literature. This makes sense to the teaching faculty, as their careers, in a 'publish or perish' environment, depend on this publishing model. Professors are evaluated, held (or not) and promoted on the basis of their output of peer-reviewed publications in high impact journals to a large extent. Thus, it also makes sense that they lead their students to believe that this is the only literature worthy of consideration for inclusion in research papers, and by extension, this is the primary literature in which academic libraries invest energy when developing collections.

Another reason why grey literature has mostly been treated as 'other' by academic libraries is simply because of a lack of familiarity. In general, this is not a subject dealt with in formal library training. Excellent cases have been made for inclusion in an LIS curriculum (Gelfand, 1998; Aina, 1998) and headway has been made in this area only recently (Farace, *et.al.* 2008)

Previously, when grey literature (other than theses, dissertations, and conference proceedings) was intentionally collected, it was most likely collections of external reports, those produced by government agencies or research institutes. In some libraries these collections were housed as stand-alone collections, whereas in others, they may have been integrated. As more and more of these reports have now been digitized, and as current ones are 'born digital', the issues around physical integration diminish, but the issues around collection, processing, and integration into a library's holdings remain. Although this is a worthy discussion, this paper focuses on the gray literature produced within the university itself, although much of what is presented here could also be applied to the management of external collections. (Siegel, 2004)

For those of us with longstanding interests in grey literature, the advent of the Web simply gave us a new tool for managing, disseminating, and increasing the visibility of this literature. A few librarians showed a lot of interest before this development, but then the Web created the ultimate in gray literature — millions of ephemeral websites. The late 1990's saw several massive efforts launched at cataloging the web, both the visible and the invisible. This seemed ironic, especially because the people who wanted to embark on this ambitious task, were often the same ones who did not see any point in dealing with paper based grey literature. Eventually this contradiction, observed by many of us ("Isn't the Web just a huge pile of gray literature?"), was explicitly articulated in an article (Pace, 2002).As time passed, the overly ambitious, and really impossible task of cataloging the entire Web was thankfully abandoned. However, whether one is dealing with digital or print formats, wherever they exist, it gets back to the necessary step of articulating definition and scope of what it is that needed in our collections, physical and virtual (Pavlov, 2006),in which he argues that the increased presence of grey literature on the web should not keep us from being actively engaged in the traditional activities of collection, archiving, and dissemination.

The idea of institutional repositories (IRs) gained traction as the attentions of academic librarians were increasingly engaged in dealing with ways to combat the 'crisis' of scholarly communication (SC). While not a panacea, this was at least one way in which academic institutions could ensure access to the academic

output of their own campuses. Of course the biggest barrier to populating these burgeoning repositories was a primary aspect of the SC crisis itself, the lack of ownership of copyright by the authors of the research. As more and more scholars are now negotiating to post rights to their published research papers, populating IRs with formally published materials is becoming easier. In searching for ways to quickly populate repositories, however, since an unpopulated repository would be a hard sell to scholars, IR project managers developed a sudden interest, more often than not associated with libraries. While the concurrent education of faculty regarding authors' rights was in process, it could meanwhile be collecting materials that did not have sticky copyright issues attached to them. A perfect example of this newfound interest in grey literature for the purpose of getting an IR off the ground is discussed (Soul off, et.al.2005) and (Bell et.al., 2005; Richards *et al.*, 2017). The Soul off paper discusses a study conducted with the help of Rochester University subject librarians who have been found to "have a profound knowledge of the gray literature used in their own disciplines that is extensive, hard-won, and valuable." One of the primary purposes of the study was "…to identify the departments and disciplines that are most likely to be early contributors (to the IR)." In this initiative, the authors see the IR as an important tool For"... disseminating the gray literature produced by our own university scholars".The Bell deliberates the increasing role of library sources and helps to populate the repository in this case.. In his article(Siegel, 2004). The case was also made for this expanding role for library liaisons, but the purpose was not to populate any particular discovery tool or archive, but actually to provide access to material that had little or no previous bibliographic access – institutional academic gray literature.One advantage of the trend of populating IRs with gray literature is that studies such as those conducted by Schopfel and Stock (2005) can be conducted by analyzing various types of repository content and use. In addition to finding that half of the open archives in France were owned or hosted by institutions of higher education, and that 67% of these higher education archives showed (by design) a strong academic interest in increasing the visibility of the institutions' scientific production – they also report for one particular archive, the IFREMER archive, while containing twice as much white material as grey, that the grey material was downloaded on average seven times more often. What this underscores is the age-old observation, that grey literature is indeed useful for research; what it illustrates is that if access is provided, it will be used. In their conclusion, the authors observe that adequate bibliographic control, and therefore access, for grey literature in the open archives that they surveyed was lacking. So this gets back to the argument of exactly how access should be provided with federated searching of available repositories through programs such as OAIster or Google Scholar, one could argue that repositories are indeed the place for institutional gray literature, with the caveat that metadata standards could use some improvement. It can be recalled that when the Internet came along, there were those who argued that, no one need libraries. With Institutional Repositories on the rise, one could argue that do not need to include grey literature in our catalogs, as IRs will now be the logical home for them. Conclusions to the contrary can also be drawn. Unless and until repositories are completely integrated with our catalogs, they will stand as separate discovery tools. Repositories, other than those that are being designed more as 'collaborators' (the minority), really serve the purpose of an institutional archive of scholarly digital output, similar to how an article repository, such as JSTOR, preserves access, but is less useful as a primary search engine for discovery than is a comprehensive subject database. The primary discovery tool for what a University library owns, or has access to, is the library catalog, and it can be argued that this is the place where institutional grey literature must be cataloged and integrated. It can be noted what is mentioned about scholarly digital output. Just as there is no digital publishing of all commercial publications, neither is all gray literature.Although this argument may be flat in the reality that most of the gray literature currently produced is actually born digital, it would take considerable effort and resources to digitize all of the existing gray literature that should actually be captured, collected, acquired, cataloged, etc.kargbo In another article, (Kargbo, 2005) cogently argues the value of grey literature collections to the mission of the university. However, he uses that argument as a means for leveraging more funding and staffing. Rightly, he argues that the value in grey literature lies not in its usefulness as instructional tools, but in its potential for research. The article also notes that "there is a bewildering profusion of technical activities associated with such materials…" I would posit that there is no need for this bewildering profusion, if simply adopted the attitude that this is material that needs to be cataloged and integrated just like any other material. And in doing so, the discrete argument for additional staffing and funding for dealing with a separate body of literature vaporizes. The point is made

that "…there should be no barriers in dealing with this type of collection in academic libraries." And that librarians "…should be proactive in dealing with this type of literature in the respective institutions."

The supply side of gray literature is discussed in the post-modern context in the theoretical portion of the paper previously cited by Pavlov. He points out the trend that one should be aware of the commoditization of scientific information. Due to this trend, there is a lack of funding for the kinds of scientific research that historically has produced grey literature. He concludes that because of these trends, scientific grey literature in particular requires extra attention for funding of collection, archiving, and dissemination (i.e. for libraries) precisely because the anti-scientific postmodern market paradigm pushes away from this.

Thus, while both of these articles argue for increased funding, the pragmatic approach would be a model that takes a strong view of integration to reduce or remove the above barriers. As long as this material was defined as' other' and needed to be kept as separate collections and this problem perpetuated. While cataloging gray literature will indeed involve a lot of original cataloging, contributing this metadata to bibliographic utilities will only need to be done once, and subsequent catalogers will be pleasantly surprised to find that they need only add information about holdings. The fact that doing so may increase the general workload, and thus an increase in cost, is not lost, it simply becomes subsumed in any negotiations for adequate funding and staffing for the library, to carry out its mission. It seems that this will be more effective, especially in lean economic times, as activities seen as 'special projects' are generally the first to be eliminated.

It had been in a place for a while where library users would prefer 'one stop shopping' – all resources available through a single interface, and while good arguments can be made for having different interfaces for optimal retrieval of different types of resources, there is no doubt that heading in a unified interface direction. Interestingly though, doing this multi-directionally enhancing catalogs with access to journal literature, more journal databases indexing books, repositories including multi-media, etc. It is clear that integration enhances the richness of any resource. What would be left with in the end is anybody's guess. Integration across institutions and countries is also critical to developing a richer environment for comprehensive retrieval.

Dijk*et. al.,* (2008) describe a national program in the Netherlands, DAREnet, which integrates digital academic repositories across the country. It includes ALL universities, whereby all of the publicly funded research is deposited as well as all of the national scientific research organizations. This is their 'green route' to open access publishing. To further enhance the portal to Dutch scientific research, DAREnet is now being integrated into NARCIS (the National Academic Research and Collaborations Information System), which provides multi-layered information about national scientific research – thus creating a national union database which will allow for in-context searching of publications. And ultimately, this system will be linked into the DRIVER project – the Digital Repository Infrastructure Vision for European Research, a project that so far has eleven European countries on board.

The DRIVER project is described further by Vernooy-Gerritsenet. al., (2009). The stated aim of the DRIVER project is to create an interoperable, trusted, and longterm repository infrastructure for the European community. The article looks at this project from the perspective of three stakeholders – the authors, the institutions, and information users. As of 2008, the paper reports, nearly half of the universities in Europe have implemented an Institutional Research Repository (IRR), as defined as those 'containing research output from contemporary researchers' is a refinement in definition which sets these apart from archives and heritage collections. In an analysis of the content of the repositories, it was found that overall, 33% of the items in the IRRs were full-text records, and within this 33%, 62% Gray literature (theses, procedures, working papers, etc.) are among the records. This evidence supports the claim made earlier in this paper, that grey literature is indeed the 'low hanging fruit' for populating repositories. Also in this paper, there is a brief discussion regarding the pros and cons for the variable workflows in play for deposit. Grey literature is often referred to as 'fugitive literature' or 'the stuff that falls through the cracks'. It seems ironic, that these widespread efforts to develop infrastructures to help capture this literature would have such disjointed workflow for collection development, thus allowing whole new ways to lose these important documents. So, though this clearly is a temporary hurdle facing this particular project, it brings to light the importance of having a well-documented workflow for the collection of institutional grey literature (Richards *et al.*, 2017).

Whether or not something similar to the Portland State template is adapted for catalog integration or for repository deposit, the point is to have a protocol for workflow that involves the assignment of metadata, some collection development vetting process, and pathways for problem resolution. At the same time, an integrated process that does not place undue demand for an increase in funding or staffing, is less likely to be a target for 'cuts' in lean economic times.

European initiatives, at least compared to those in the United States (U.S.), seem to grow from a general culture, and specifically, a scientific and academic culture of centralization. The highly integrative model that observed in the DRIVER project, and the smaller projects that feed into it, are natural outcomes of this culture, and can work exceedingly well in countries and continents where scientific research is more centralized. In the U.S., the world of research is far more fragmented. It could still be fairly far into the future before all of the scientific research conducted in the U.S. - in the universities, national research institutes, state agencies, etc. will share a common portal for discovery. Realizing the power and feasibility of such projects though, will hopefully fuel efforts at any level and any opportunity for integration.

Currently, the most widely used bibliographic utility in the U.S. is OCLC, where the front-end union catalog product is known as WorldCat. A trend that observed currently experiencing is the integration of academic library catalogs with WorldCat, thus giving us the 'WorldCat Local' product as our home catalogs. As it moved in this direction, continued the integration that users have been asking for – that of books and journal articles that previously needed to be searched via separate portals or discovery tools. While article coverage is far from comprehensive with this product, it does belie a trend, the direction of which is obvious. In order for an item in the local catalog to be included in the WorldCat Local catalog however, it must have a linking identifier, in this case, an OCLC number. OCLC numbers are assigned to items as they are cataloged into the utility. Thus, gray literature deposited in repositories but not properly cataloged in the system, meaning for most of us, OCLC, will be lost from this discovery opportunity.

In a project described by a group of veterinary librarians (Jaros, et. al.,2008), a contemporary case is made for the preservation of relevant grey literature that was not born digital, that is very valuable to the profession and study of veterinary medicine, and that is in danger of being lost. The article echoes the argument previously made, that there must be "vigilance in collecting and preserving the output of home colleges and institutions", in spite of any prescient knowledge as to whether the value of any given document will be transitory or permanent. This article also expresses the problems encountered when holdings are not reflected in a union catalog, such as OCLC, and agrees that the retrieval of that which has not been added to a union catalog requires extraordinary time, effort, and vigilance that most cannot afford.

An additional observation made in the original Portland State article (Siegel, 2004) but one that bears repeating is that the establishment of policies and protocols for handling institutional grey literature puts a library in a far better position to take on additional grey literature collections that may be appropriate to the University, but it may also not be widely collected or maintained, such as collections of community-based gray literature relevant to the university's mission. Siegel (2010) emphasize that institutional Grey matter Literature in the University environment as the collection of scholarly institutional grey literature in academic environments should be critical to the mission of the institution, and should be articulated in collection development policies of the library. A comprehensive assessment of the grey literature being produced (both quantity and sources) at any institution is advised. The protocols, procedures, and responsibilities should be delineated and integrated into established workflows and position descriptions. It was recommended that these include a vetting process, to ensure consistency with other collection development guidelines.

The inclusion into the mission, grey literature should not be treated as an 'appended' collection – integration is a key to the maintenance of consistent treatment through variable economic times. Sufficient studies have shown that when academic grey literature is made available to scholars, it is utilized, fairly to the larger extent. The increased presence on the Web of gray literature is no reason to forego comprehensive collection, cataloging and dissemination efforts. To optimize discovery, interoperability should be a key factor in determining whether to 'locate' grey literature in the library catalog, an institutional repository, or both. To paraphrase something expressed in the Vernooy-Gerritson article: Ideally, hence all tried to move toward is a system of scholarly communication that functions cohesively and at a higher level, the level of 'infusion', borrowed from the IT management literature and defined by Cooper and Zmud (2014) as

"increased organizational effectiveness…obtained by using the IT application in a more comprehensive and integrated ways of supporting aspects of organizational work at higher levels.

The more that it can leverage the technology, while at the same time paying attention to mission and solid workflow to accomplish the mission; and the more had paid attention to maximizing the benefit to all of the stakeholders, the more had brought the scholarly communication system to a higher level of support for high level research. It is to this end, that so many innovations are directed toward, but putting energy only into disaggregated pieces of the system will not achieve this. Our entire scholarly information infrastructure needs to move toward integration in every way possible (Siegel 2010).

- The collection of scholarly institutional grey literature in academic environments should be critical to the mission of the institution, and should be articulated in collection development policies of the library.
- A comprehensive assessment of the grey literature being produced (both quantity and sources) at any institution is advised.
- Protocols, procedures, and responsibilities should be delineated and integrated into established workflows and position descriptions. It is recommended that these include a vetting process, to ensure consistency with other collection development guidelines.
- By inclusion into the mission, grey literature should not be treated as an 'appended' collection or integration is key to the maintenance of consistent treatment through variable economic times.

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