This chapter explores faculty practices of both engagement in and resistance to self-archiving journal articles in institutional repositories. The view is intentionally broad; examples from different types of institutions across the globe are included, as well as from a variety of disciplines. Though this chapter focuses on what has been reported in the peer-reviewed literature, some highly relevant conference papers and reports are included. This chapter seeks to help us understand and strategize around nonarchiving by faculty, addressing the following questions:

1. What are the major themes and patterns seen in the literature discussing faculty practices of green archiving?
2. What are the differences between disciplines in terms of embracing open access and self-archiving?
3. What are the future directions for examining faculty and self-archiving practices and adoption of open access in general?

Librarians have been working to highlight and showcase faculty research through a variety of means: faculty publication databases (Armstrong & Stringfellow, 2012; Schwartz & Stoffel, 2007; Tabaei, Schaffer, McMurray, & Simon, 2013; Vieira et al., 2014), annual scholarship celebrations, collections of faculty monographs, and so on, so the repository is a natural step forward in providing enhanced access to faculty work for both university communities and the public. Green archiving of faculty articles
in institutional repositories has been a standard practice to engage faculty in open access (OA) issues, building on the grassroots efforts that Johnson alluded to in an article published in *D-Lib*: “Institutional repositories build on a growing grassroots faculty practice of posting research online, most often on personal web sites, but also on departmental sites or in disciplinary repositories” (Johnson, 2002). Raym Crow, in a position paper published by the Scholarly Publishing and Academic Resources Coalition, stated that IRs:

- Provide a critical component in reforming the system of scholarly communication—a component that expands access to research, reasserts control over scholarship by the academy, increases competition and reduces the monopoly power of journals, and brings economic relief and heightened relevance to the institutions and libraries that support them; and,
- Have the potential to serve as tangible indicators of a university’s quality and to demonstrate the scientific, social and economic relevance of its research activities, thus increasing the institution’s visibility, status, and public value. (Crow, 2002)

Clifford Lynch offers a broad perspective on the institutional repository (IR) as a “set of services” and fully acknowledges, “[A]n effective institutional repository of necessity represents a collaboration among librarians, information technologists, archives and records managers, and university administrators and policymakers” (Lynch, 2003). Green OA efforts are active across a variety of institutions and disciplines, using both hosted and open source platforms, with varied levels of faculty involvement and success. Outreach to faculty has long been a cornerstone of efforts to shift and transform the scholarly communication environment, with IR efforts often at the forefront as an option for green OA.

Green archiving, or self-archiving, provides an avenue for faculty to share their work pre– or post–peer review, even when copyright has been transferred to a publisher. Libraries have often built repository services around mediated green archiving as a way to increase participation
in the repository, and every year, more universities and colleges enact faculty-driven mandates or policies for open access, with green archiving as a central tenet. Librarians have also broadened the scope of content recruitment beyond the journal article in the hopes that more faculty will become interested and invested in the institutional repository. Collections of educational resources, working papers, gray literature, images, and data are increasingly common in repositories. Federal funding agencies are a vital partner in green archiving as well. The National Institutes of Health (NIH) Public Access Policy requires authors to deposit their NIH-funded work in PubMed Central, and several other agencies at both the federal level will follow in order to meet the new Office of Science and Technology Policy (OSTP) requirements released by the White House in February 2013 (Holdren, 2013). In September 2014, California became the first state to require researchers to provide public access to research funded by the state’s Department of Health (2014), and the Illinois legislature passed the Open Access to Research Articles Act (2013), which requires each state university to convene a task force to decide on a course of action for research published by faculty. Major private funders are also requiring open access to the products of research they support, including the Bill and Melinda Gates Foundation and the Howard Hughes Medical Institute. More may follow as open access continues to gain support.

**MAJOR THEMES**

Comparing the early entries into the literature on IRs and OA with current literature shows the tensions between expectations and reality as well as how far librarians and advocates have worked to engage faculty and to shift perceptions of IRs and OA within constraints (discussed in the following sections). In addition, it is useful to understand that a confluence of concerns persists today when discussing green archiving, and librarians must be ready to respond during discussions with faculty. The articles discussed provide useful background and context for planning outreach to individual faculty and departments and for long-term strategy around self-archiving or for IR implementation in general.

In their seminal paper published in 2005, “Understanding Faculty to Improve Content Recruitment for Institutional Repositories,” Nancy Fried Foster and Susan Gibbons examined faculty research habits and behaviors
in order to better understand their reticence to utilize IRs. Foster and Gibbons’s work also identified a list of individual faculty needs through faculty interviews, a number of which can be fulfilled with the institutional repository. Surfacing these individual needs encouraged changes in the way library liaisons engaged with faculty, moving to an approach tailored to the individual faculty member and his or her research. Davis and Connolly, in 2007, also interviewed faculty to study the low deposit rate into Cornell’s repository and learned that generally, the faculty they spoke with had concerns related to copyright, concerns over plagiarism, and concerns that without proper vetting via the peer-review process, any research posted on an IR would be perceived as lower quality, thus negatively impacting a researcher’s reputation (Davis & Connolly, 2007). “Learning curve” was also a common response, as was lack of functionality of the IR software (Davis & Connolly, 2007). Xia, also in 2007, echoes some of these themes, but also notes that in departments and institutions where deposits are mediated, deposit rates are higher (Xia, 2007). Both Covey (2011) and Salo (2008, 2013) paint a bleak picture of institutional repository efforts in general, for many of the same reasons as listed above, even though in Covey’s study of faculty, participants acknowledged the value of linking self-archiving with annual reporting processes, and also acknowledged the usefulness of features in the repository software.

Kim’s 2010 article provides a useful study of factors and variables that have an impact on faculty self-archiving, identifying “support for the spirit of OA” as a main driver, but other factors have a mitigating effect. Kim found differences in self-archiving culture not only between humanities, social sciences, and sciences faculty, but also within these disciplines, and that the culture of the discipline does have an effect on self-archiving practice. Copyright, technical skill and age, and time and effort were found to be factors in limiting self-archiving practices. A follow-up study published in 2011 examined other factors that encouraged or hindered participation in the IR, this time focusing on faculty across 17 doctorate-granting institutions. This second study found that copyright concerns, accessibility, altruism, and trust were the significant continuous factors, while tenure was also identified as a major influence on participation in the IR.

Tenure was also examined more closely in a study of English faculty (Casey, 2012). After analyzing faculty deposits in the repository and finding
that more than a third came from the English Department, a librarian on the institutional repository implementation team created a study to investigate why, since typically English faculty are not active contributors to repositories. One focus group was made up of tenured faculty, while the other was made up of tenure-track and adjunct faculty at a large university in the Midwest. This research offers a new perspective in the discussions of faculty engagement in the IR by broadening the scope of work to the entire spectrum of faculty work: research and scholarship, teaching, and service. The faculty who participated in the study indicated a willingness to deposit a number of different items related to all three areas, even though both groups acknowledged it may “be difficult to judge the reliability of unpublished material” (Casey, 2012). Both groups also acknowledged issues with sharing teaching materials, referencing “themes of ownership, currency of an item that is updated regularly, and the amount of time and effort it takes to develop many of these items” (Casey, 2012). This study also found that despite a relatively high rate of faculty deposits into the IR, there was still a “lack of understanding about open access publication and IRs in general,” with knowledge about both generally uneven in each group. The author did report that the participants appreciated the focus groups for dispelling the misconceptions around open access and IRs.

It is curious that open access is still an area of confusion and myth for many faculty members, given the progress since the 2002 Budapest Open Access Initiative, the increasingly advocacy activity by SPARC, and related legislation in California and Illinois. It is clear that despite major steps forward (e.g., funder mandates; federal policy and federal legislative efforts; vocal, high-profile champions; and even a mention on the Colbert Report), open access is still seen as an outlier. If open access isn’t valued by the faculty member because of erroneous definitions or a lack of understanding (let alone awareness), then self-archiving isn’t even a possibility. There are several studies that explore faculty attitudes toward open access, which has a direct impact on faculty self-archiving practices. Waller, Revelle, and Shrimplin, in a paper presented at the 2013 meeting of the Association of College and Research Libraries, used Q methodology to better understand faculty attitudes toward open access and identified three main “opinion groups”—Traditionalists, Pragmatists, and Evangelists. By identifying these groups and their support or concerns about open access, Waller
and her colleagues can diversify outreach and engagement strategies for each group. The authors said that while they expected to find faculty on either end of the continuum, they were pleased to find the middle group—the Pragmatists—who support OA in general, but have concerns that are “identifiable and addressable” (Waller, Revelle, & Shrimplin, 2013). Kocken and Wical, librarians at University of Wisconsin—Eau Claire, studied their faculty to assess awareness of open access and found that “many faculty members do not have a sophisticated understanding of open access, let alone the level of awareness we hypothesized” (Kocken & Wical, 2013). In 2007, Park and Qin explored perceptions of faculty attitudes toward publishing in and use of open access journals using grounded theory methodology. Their findings reflected several other studies, and also highlighted that publishing choices are becoming more varied thanks to the options afforded by OA initiatives. They also found that attitudes and behaviors are often based not only on the individual researcher’s preferences, but also on the community’s perceptions: “They assess journal reputation based on social norms established within the field” (Park & Qin, 2007). Further, they found connections through axial coding between several factors, presented in the brief summary below:

- Perception of topical relevance is positively affected by journal reputation.
- Journal reputation is positively affected by career benefit.
- Career benefit is negatively affected by cost.
- Open access journal reputation is positively affected by content quality and vice versa.
- Availability is positively affected by ease of use, but is negatively affected by perception of content quality. (Park & Qin, 2007)

These connections illustrate the complexity of why it has been and continues to be difficult to convince some faculty in some disciplines to change their behaviors and attitudes regarding OA. Finally, Rodriguez addresses generational differences, another anecdotal rationale for nonparticipation in open access, and finds that the results “suggest that faculty authors are not prejudged by their age or tenure status as to their perception of or experience with OA, because these indicators do not appear to be strong predictors” (Rodriguez, 2014).
DISCIPLINARY DIFFERENCES: SCIENCES, SOCIAL SCIENCES, AND HUMANITIES

Attitudes Toward Open Access

Another long-accepted truism in scholarly communication circles is that faculty in the sciences are more likely to accept open access, while faculty in the social sciences and humanities have been slower to engage with open access habits and behaviors. The sciences are funded more robustly than either the social sciences or the humanities at the federal level, which allows more flexibility in paying author processing fees for open access; however, all three groups have had challenges to funding levels in the past. ArXiv.org is often cited as an example of a core preprint archive, and the highly visible examples of open access journals (PLOS ONE, BioMedCentral) are in the sciences. The Office of Science and Technology Policy, announced in 2013, will have the greatest impact on agencies related to the sciences, as will the Fair Access to Science and Technology Research Act (FASTR), first introduced into Congress in 2013 (FASTR, 2013) and reintroduced in March 2015 (FASTR, 2015). The sciences also seem to be more active in the debates over sharing research data and discussions and implementation of altmetrics.

However, even though the humanities do not have an established archive like arXiv, the Social Science Research Network (SSRN), or Research Papers in Economics (RePEc), there are signals that humanists are grappling with questions of access and making inroads into open access. In 2012, the Modern Languages Association (MLA) announced that their journals would allow authors to retain copyright and to deposit the final versions of manuscripts online, on personal or departmental Web sites, institutional repositories, or subject repositories (MLA, 2012). In 2013, the American Historical Association (AHA) released the “Statement on Policies Regarding the Embargoing of Completed History PhD Dissertations,” calling for a six-year embargo on dissertations, causing a flurry of debate in the field. A follow-up Q&A with Jacqueline Jones (2013), the vice president of the association’s Professional Division, and a column by former AHA president William Cronon (2013) discuss the themes of control of intellectual property, the differences between the sciences and social sciences, and the importance of the monograph in the discipline, especially for tenure and
promotion. Finally, the Open Library of the Humanities and Open Humanities Press are two initiatives that have great potential to invite more humanities faculty into discussions and action around open access.

It should be noted that the social sciences have two well-established and well-regarded online systems for early dissemination of research: the Social Science Research Network (SSRN), started in 1994, and Research Papers in Economics (RePEc), started in 1997. While both systems are potential competitors with IRs, librarians can use them to complement the IR and as an informational resource to identify faculty who could be future IR users, and to understand the value of disciplinary repositories compared to institutional repositories (Lyons & Booth, 2011). Even with these long-standing subject repository models, the social sciences have also had their own disciplinary debates regarding open access and the sustainability of scholarly publishing. The Executive Board of the American Anthropological Association (AAA), in early 2012, released a letter stating that “while we . . . share the mutual objective of enhancing the public understanding of scientific enterprise and support the wide dissemination of materials that can reach those in the public who would benefit from such knowledge (consistent with our associations’ mission), broad public access to such information currently exists, and no federal intervention is currently necessary” (AAA, 2012a). They later ameliorated their stance with a statement reading in part, “the AAA opposes any Congressional legislation which, if it were enacted, imposes a blanket prohibition against open access publishing policies by all federal agencies” (AAA, 2012b).

Attitudes Toward Self-Archiving
Xia questioned attribution of nonparticipation in IRs to “disciplinary culture theory” (Xia, 2007, 2008), pointing instead to factors such as mandates and policies, and mediated deposits as major factors in developing institutional repository content. In his 2007 study comparing faculty in disciplines with established disciplinary repositories (physics and economics) with faculty in disciplines without disciplinary repositories (chemistry and sociology), he found that in the two institutions with the highest number of deposits, library liaisons or administrative assistants were responsible for 97.7% of those deposits and even at institutions with a mandate or policy, mediated deposits still made up more than half of total deposits. Xia’s
studies also establish “operational aspects” as key to an institutional repository’s success, such as ease of use and presentation of content. In 2012, Xia and colleagues examined self-archiving mandates and policies and concluded that “it is too early in the development of OA repositories to theorize a policy effect, especially given the fact that the change in deposit rate of repository content varies among different types of mandate policies” (Xia et al., 2012). He also seems to shift his position on the impact of disciplinary culture on self-archiving, stating “participation largely depends on the existing publishing traditions within a given institution or discipline” (Xia et al., 2012).

In the library literature focused on faculty self-archiving, there are several interesting threads. In a survey of 279 business faculty, Hahn and Wyatt (2014) found that 69% of respondents did not know if their institutions had an IR and were unconvinced of the value of depositing their works. Respondents also critiqued IRs in general for being time consuming and difficult to use, and a few cited copyright concerns as well. Mischo and Schlembach (2011) had similar conclusions in their study of engineering faculty attitudes toward open access, finding that there is low awareness and low rates of participation. Antelman, in 2006, found not only that social scientists in general engage in self-archiving at a significant rate, but also that publisher policies for self-archiving seem to have little effect on the rate of self-archiving. This led her to conclude, “Just as it is authors and not publishers who self-archive, it is discipline-based norms and practices that shape self-archiving behavior, not the terms of copyright transfer agreements” (Antelman, 2006). Atchinson and Bull (2015) studied citation rates of self-archived articles in political science and found that the authors in the sample have been quite active in self-archiving, and that this has led to a high rate of citation. One fascinating entry into this topic that could serve as a model for future research is Tomlin’s study of OA and art history. He notes that one obstacle to greater adoption of self-archiving practices in art history is the lack of access to or lack of policy related to self-archiving: “since the greater mass of art historical journals are published not by large university presses but by smaller societies and associations across North America and Europe, their policies on self-archiving are not readily accessible or, even more troubling, are altogether non-existent” (Tomlin, 2009). Further, Tomlin points out that art history has not fully embraced electronic
publishing for scholarship, and that the conversations to push OA forward, within art history specifically, will need to include society publishers, art associations, and museums in conversations about sharing art history research, especially to establish best practices for sharing images in the open access literature.

It stands to reason that different disciplinary practices and attitudes toward open access and publishing in general will have an impact on faculty approaches to self-archiving. Even within the same discipline, faculty may have opposing viewpoints and levels of comfort with the idea of self-archiving, or with the idea of using the institutional repository for their postprints. It is also worth mentioning that in order for open access outside of the sciences to be successful, it must reflect the priorities implicit in the social sciences and humanities. It follows, then, that it is vital that on the local level, librarians move away from a one-size-fits-all approach to outreach and engagement. We must employ the skills gained through reference interviews and information literacy instruction and combine those with effective methodologies to form a better understanding of how faculty work, how they share their work, and how they see future uses of their work in order to gain their perspectives on open access and self-archiving. It is well established that the misconceptions and myths about OA, specifically regarding self-archiving, are persistent and many. Librarians must become well versed and conversant in matters of open access, copyright, and pro and con arguments, so they can provide a balanced, nuanced perspective to help guide faculty. Librarians must also understand the scholarly habits, practices, behaviors, and priorities for the faculty and their discipline. Understanding the faculty perspective is crucial, and effective advocacy must take a variety of viewpoints into account to be relevant and trusted. In their study, Park and Qin noted:

There are two main social constructs driving open scholarly publishing. One is the noble idea of disseminating and sharing knowledge freely, both within learned communities and with the public; the other is the demand for faster, wider, and more effective dissemination of research products, including not only papers but also the data sets and graphics generated in the research process. While technological advances made
open scholarly publishing possible, these social constructs will determine its success or failure. (Park & Qin, 2007)

Librarians stand at the intersection of the social and the technological, and they can act as navigators and translators for faculty who need guidance in both regards. We cannot change the status quo of scholarly publishing alone; we must work with the faculty over the long-term to raise awareness of our IRs, to increase their knowledge of their author rights, and to understand and respond to their priorities and concerns.

FUTURE DIRECTIONS

In summary, the following are still major concerns and obstacles to faculty practices of self-archiving:

- Awareness of the IR as a resource and tool
- Understanding of the advantages of self-archiving (sharing work, citation advantage)
- Misconceptions about open access
- Perceived quality of self-archived materials
- Concern regarding copyright
- Concern regarding plagiarism
- Concern regarding impact on promotion and tenure
- Disciplinary culture and practices
- Status (tenure, tenure-track, adjunct)
- Time (to deposit materials, check publisher policies, alert the library to new publications)
- Effort to learn a new system/interface
- Technical skills

Even though OA is increasingly accepted and utilized as a publication method, business model, and philosophy in some disciplines, both OA, and by extension institutional repositories, are still viewed by some as highly suspect. Framing self-archiving in IRs as a first step toward adopting OA behaviors, such as submitting articles to fully OA journals, could contribute to the overall acceptance and use of open in general, especially as faculty and other contributors see increased citation rates and download counts,
and as faculty use institutional repository content found via search engines in their own work (either in their research or scholarship, teaching, or service work). It is clear that there are still layers of misunderstanding and lack of awareness, and that outreach and engagement on the part of librarians and faculty champions will be needed in the future to build repositories as a trusted system for sharing faculty work.

Future questions that could aid librarians and advocates in their work include exploring faculty use and perceived benefits of systems such as ResearchGate and Academia.edu in relation to the repository, and effective ways of outreach to and engagement with faculty within and across disciplines not only for awareness but also for action; and, as Molly Kleinman writes, “more work is needed to develop and apply conceptual frameworks to the subject of open access broadly, and to the particulars of faculty attitudes and behaviors with regard to sharing their scholarly work online” (Kleinman, 2011). Finally, as librarians explore faculty practices more deeply, we need to share with one another our best and worst practices so others can apply what we have learned on our individual campuses. As open access continues to grow, we must continue to understand both individual faculty attitudes and behaviors and the different attitudes and behaviors of the distinct communities of scholars that exist on our campuses. Understanding how both the individual and social constructs impact each other is a key element in engagement, debate, and change.

REFERENCES


