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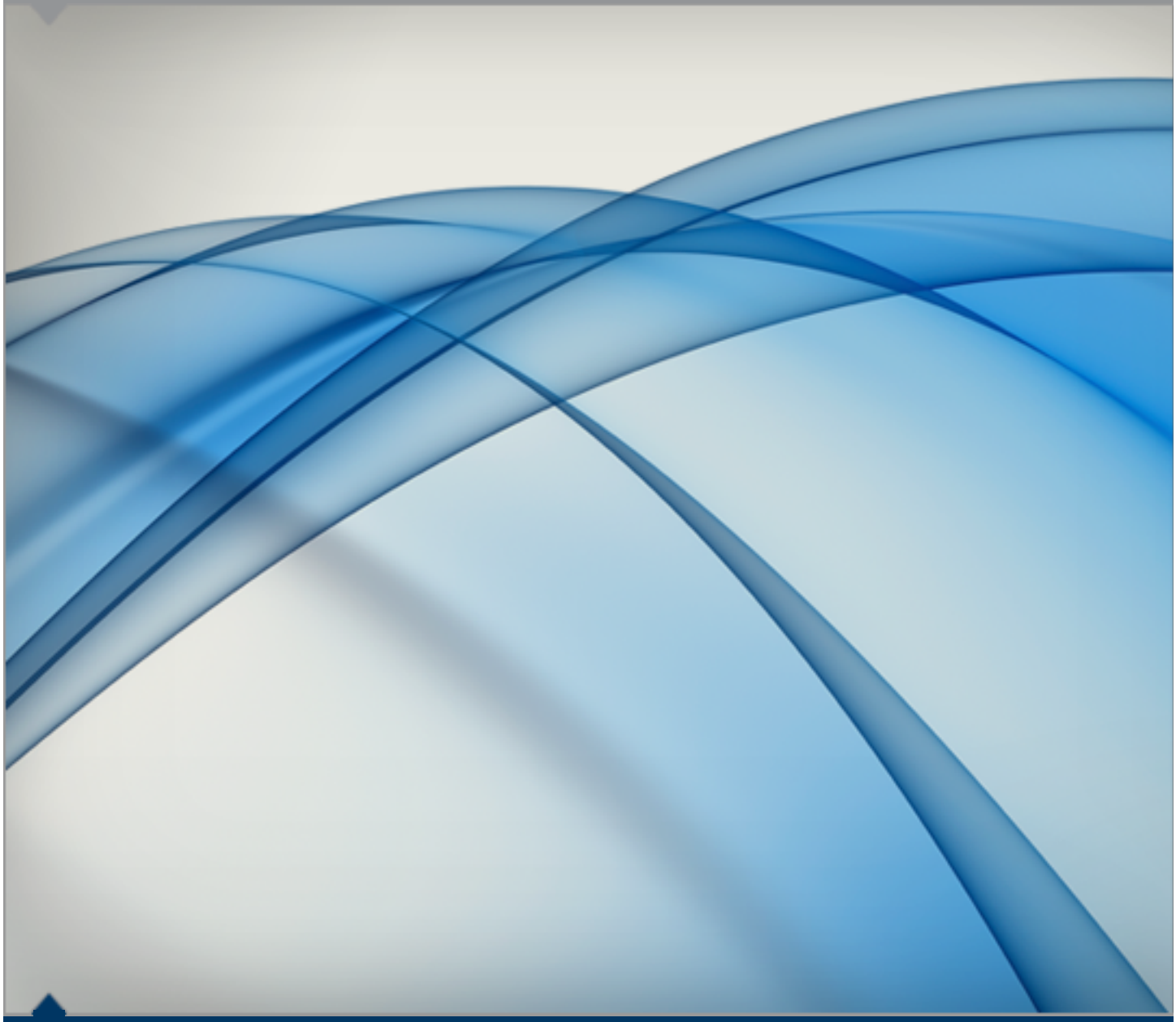

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LIS Professionals: Providing Free & Accessible Information

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As we wind down the publishing process for our Fall 2013 issue and I complete my first term as Editor-in-Chief, I realize that publishing a scholarly journal is a tremendous undertaking and learning experience for the Editorial Team. The *Student Research Journal* is a student-governed scholarly journal, which means that as LIS students, we are reviewing our fellow graduate students' manuscripts. This review process is an excellent learning tool for the editors, and we hope that we are helping our peers learn the importance of producing quality scholarly research during this process.

Here at SRJ, we receive submissions from LIS students around the world and the editors face the difficult challenge of critically evaluating each manuscript through the rigorous double-blind peer review process. Only two manuscripts made it through the peer-review process for this second issue of the third volume, which is a testament to the thoroughness of our editorial team. The submissions covered a diverse subject range within the LIS profession. Our editorial team members reviewed papers on academic librarianship, young adult literature, historical research and electronic record keeping, among others. The diversity of research reflects the rapidly changing world of the LIS professional and serves as a reminder of the value of a MLIS degree to the information professional.

In this issue of the *Student Research Journal,* we present two very different papers as Julia Wells examines the stereotype of the female librarian within the social context of film, and Tony Brooke provides a thorough examination of open source integrated library systems. Yet even with these two seemingly diverse subjects, a theme emerges that, despite the rapidly changing role of the librarian from the stereotypical stern female librarian to the technologically hip librarian of today, librarians still protect the right to free and accessible information to the public.

Wells' article "The Female Librarian in Film: Has the Image Changed in 60 Years?" examines the image of the female librarian over a sixty- year span as depicted in popular movies. "Has the representation of the librarian changed to depict a more positive image of the librarian?" she asks. Or are librarians still seen through the lens of the prevailing stereotype of an older, unmarried woman with her hair in a bun? Wells examines various movie scenes in which people visit libraries seeking information, studying and conducting other library activities to determine how librarians are portrayed by the media.

Tony Brooke introduces his research paper on "Open Source Integrated Library Systems in Public Libraries" by stating, "Increasingly the face of the public library is no longer a bespectacled librarian behind an orderly desk" and discusses how the electronic age affects the way information is delivered in both presentation and content. He states that one of the most important choices that information professionals have to make is deciding which integrated library system (ILS) to use. Brooke explains that until recently, commercial ILS systems were the only option; however, free and open source software (FOSS) is now a viable option. He discusses the advantages of FOSS within the library system stating that collaboration between librarians and open source developers is a natural fit as both share the trait of being "obsessive about sharing information".

As an open-source journal, SRJ proudly continues the traditional role of providing free and accessible information to all. Our goal is to advance scholarship in the library and information science field by providing a forum for LIS graduate students to publish their works through a double-blind peer review. At the same time, the editorial team members use their experience at the journal to increase their scholarly research, writing skills and strategic reading skills under the skillful guidance of our Faculty Advisor, Anthony Bernier.

In conclusion, I'd like to offer my thanks and congratulations to our graduating team members and a special thank-you to the Managing Editor for this issue, Barnaby Hughes. I also thank the faculty of the School of Library and Information Science at San José State University, and the SRJ Editorial Advisory Board for their continued support in publishing graduate scholarship. Lastly, I thank the excellent technical support team at bepress Digital Commons. I welcome our new team members to this exciting opportunity to govern our very own Student Research Journal. We are already hard at work producing another excellent publication for Spring 2014.

Julia Wells is a graduate student in the MLIS program at SJSU School of Library & Information Science. She received her BA in Psychology and Women's Studies from McGill University, in Montreal, Canada.

Tony Brooke is a master's degree candidate at the School of Library and Information Science at San José State University. His research has investigated media asset management and audiovisual metadata. He has been an audio engineer in San Francisco since 1992.

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The Female Librarian in Film: Has the Image Changed in 60 Years?

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This paper originated in my LIBR 200 Info. and Society class (Fall 2012). Thank you to Professor Debbie Hansen for her support and encouragement throughout the class.

The Female Librarian in Film: Has the Image Changed in 60 Years?

Cover Page Footnote
This paper originated in my LIBR 200 Info. and Society class (Fall 2012). Thank you to Professor Debbie Hansen for her support and encouragement throughout the class.

Introduction

Two women are talking to each other in a library. The first is dressed conservatively: high collar, modest below-the-knee skirt, comfortable shoes. Her hair is in a bun and she is wearing glasses. Her companion wears a form-fitting blouse, jeans and funky boots. Her hair falls loosely around her face. If asked to point out the librarian, most people would choose the first woman. The prevailing stereotype of the librarian (old, hair in a bun, glasses, conservative dress, unmarried) is so ingrained in the North American consciousness that throughout the past century, the image of librarians in popular media, particularly in film, has changed very little (Tevis & Tevis, 2005).

This paper will address the question of whether or not the popular librarian image, as depicted in the medium of film, has changed in 60 years, and if it reflects the shift in the roles of women and librarianship. With the obsolescence of card catalogues and rubber stamps, and the explosion of technology within the field of library science, academics have suggested that perhaps the image of the librarian will change from the boring, monotonous task-oriented drudge, to the dynamic sharer of technological knowledge (Adams, 2000; Stevens, 2001; Tevis & Tevis, 2005). Taking into account the socio-historical context of the earlier era movies and the librarian image they portray, this study will compare the image of the female librarian found in the earlier movies to the more recent films, book-ended by the 60 year span, in order to discover if the academic advice has taken hold. Has the representation of the librarian changed to depict a more positive image of the librarian? Has the image been appropriated and "owned" by the movie librarian? Or are movie-goers still watching the same old stereotype on the silver screen?

How does the consistent inclusion of this negative image affect the librarian profession? The word "stereotype" is defined as "a preconceived, standardized, and oversimplified impression of the characteristics which typify a person" (Barber, 1998). According to Radford and Radford, the relentless negative stereotype "ultimately constricts the power and economic status of a gendered profession – librarianship" (2003, p. 59). This notion of a stereotype affecting the economic status of a profession is not a new one. In a 1960 article, Leigh and Sewny state that "the popular image of the librarian has direct effect upon the degree of support given to his library in book funds, salaries, housing, [and] equipment" (p. 2089). Because of the obvious impact of these negative portrayals on the librarian profession, three different questions have been examined in the scholarly and professional discourse: (a) How is the stereotypical image of the librarian depicted and what are the historical antecedents of this image? (b) Does this popular image reflect the actual librarians in America? and, (c) How do we change the negative aspects of the stereotype in popular culture? (Adams, 2000).

There have been in-depth studies of the librarian character in movies throughout the 20th century (Walker & Lawson, 1993; Tevis & Tevis, 2005), but there has been limited academic discourse of the librarian image in films from 2000 to the present. In a 2005 study, Threatt looked at the librarian image in six movies, noting only if they conformed to the Myers-Briggs list of personality traits (Threatt, 2005). Tancheva (2005) studied three movies and the semiotic meanings of the library and librarian depicted in each. By comparing the librarian image in

twelve movies from either end of a 60 year span, my study strives to demonstrate the extent of the evolving librarian image, and ultimately how little it has changed in 60 years.

Historical Antecedents and Literature Review

In the early part of the twentieth century, when young unmarried women were joining the workforce in greater numbers, librarianship was one of the few occupations deemed suitable for women. What began as a male-dominated field became mostly the purview of women, so that by 1910, 78% of librarians were women (Newmyer, 1976). Because only single women were permitted to work at this time, the image of the librarian as spinster was born. Newmyer wrote that it was "scientific management… which created and perpetuated a submissive, dependent, spinsterish librarian image of such strength and durability" (1976, p. 48). In 1946, William Form conducted a study to identify whether or not the popular image of a librarian matched with the librarian personality. He asked the question, "What kind of people are librarians, in your estimation?" (p. 852). He found that "the negative personal and social qualities attributed to librarians outweigh the positive and neutral attributes" (Form, 1946, p. 852). The weakness in this study was the lack of standardization in asking the survey question. For example, 50 different students asked laypeople the survey question, with probably 50 different ways of asking and responding.

In a guest editorial in an issue of *Saturday Review*, Howard Mumford Jones wrote that a "librarian too often resembles a head-waiter showing one to a table in a large restaurant and too little resembles an artist having profound and passionate views of life, death and immortality" (1960, p. 53). By the 1940s and 1950s, with more and more women entering the workforce and with women still being pressured to retain their traditional female roles, film and media continued to fully embrace the delineation of male and female roles (Ferguson, 1991). As a result, in movies from this era, the main goal of the so-called old maid (at 30 years of age) was to be engaged or married by the end of the story.

Over the last half-century, theories have been postulated about the reasons for the negative characteristics of the librarian stereotype: i.e., failure to differentiate between librarians and library workers (Leigh & Sewny, 1960), or the relationship between power, knowledge and fear (Radford & Radford, 1997). However, there is agreement that popular culture, including media, plays a significant role in creating and fostering the images we all have come to associate with librarians (Stout, 2004; Tevis & Tevis, 2005). The common thread throughout the literature seems to be the desire to find a "solution" to the stereotype: how do we possibly change the commonly held view of librarians?

In earlier studies, the advice for real-life librarians ranges from the suggestion to show more enthusiasm for the library patron (Form, 1946), to show more enthusiasm for the content of books rather than for the shelving of them (Jones, 1960). In a book called *Revolting Librarians*, the advice is to "meditate…smile at the patrons…[and] bring in goodies" (West & Katz, 1972, p. 20). In more recent studies, three different ways to approach the movie and real life dilemma are offered: (a) reverse the stereotype, (b) substitute the image of negative qualities with positive, or (c) tackle the stereotype from within, or "own" it (Adams, 2000; Duncan, 2004; Radford & Radford, 2003; Wallace, 1989). It seems that the greatest divergence in thought on how to

combat the prevailing stereotype is that some scholars believe that we should change the image, and ourselves, to a more positive presentation (Duncan, 2004; Wallace, 1989), while others believe that we need to appropriate the image and make it our own (Adams, 2000; Radford & Radford, 2003). Stout writes that "breaking through old stereotypes by self-parody…[is] a critical phase of assimilation that usually results in re-emerging with greater strength" (Stout, 2004).

Methodology

For this paper, the movies were randomly chosen as samples from two specific time periods, on either side of a 60 year time span. In order to include similar genres for analysis, all were English-language, set in North America, non-science fiction, and non-animated. The six films from the 1940s and 1950s were *The Philadelphia Story* (1940), *Citizen Kane* (1941), *The Big Sleep* (1946), *It's a Wonderful Life* (1946), *Good News* (1947) and *Desk Set* (1957). The six films from the 2000s were: *Tomcats* (2001), *The Emperor's Club* (2002), *The Station Agent* (2003), *Because of Winn-Dixie* (2005), *I Love You, Beth Cooper* (2009) and *Arthur* (2011). The following physical characteristics of the librarian character were compared: (a) age, (b) hairstyle, (c) clothing, (d) presence of glasses, and (e) marital status. The demeanor of the character was also noted. For example, was she stern ("shhh!"), or friendly? Additionally, in the modern films, the inclusion of computers as a part of the library environment was examined. Although there are also stereotypes of the male librarian in popular culture, this paper will analyze only the movies in which the librarian character is female, while taking into account the changing roles of women in society in the 60 year interval.

1940s and 1950s Movies

The first film analyzed was *The Philadelphia Story* (1940), starring Cary Grant, Katherine Hepburn and James Stewart. Hepburn plays Tracy Lord, a rich socialite. Two years after her divorce from Grant's character, C. K. Dexter Haven, Tracy is about to remarry. Haven is now a tabloid newspaper editor who solicits the journalist Mike Connor (played by Stewart) to dig up some dirt on Tracy Lord. As this movie is set in a time before Google and Twitter, Mike makes a trip to the local public library to find out more about the Lord family history. The librarian (un-credited, played by Hilda Plowright) is a woman in her 40s or 50s, wears her hair in a bun, and has on a conservative dress with a high collar. She says things like, "What is thee wish?" and "If thee will consult with my colleague in there" (Mankiewicz, 1940). Mike finds Tracy in another part of the library reading a book that he has written. As the two start chatting about the book, the librarian puts her finger up and says, "Shh, shh". The librarian stereotype is fully embraced in this earliest movie from the time period.

In the next movie from this era, *Citizen Kane* (1941), an eccentric wealthy industrialist, Charles Foster Kane (played by Orson Welles), dies with one last word on his lips: "Rosebud." Journalists have been dispatched to the Thatcher Memorial Library to read the private diary of Walter Parks Thatcher, Kane's childhood guardian, to see if the word "Rosebud" had any special

significance in Kane's life. We find the librarian, Miss Anderson (played by Georgia Backus), a very formidable character indeed. She presides over an imposing, cavernous hall that echoes with her every word. She looks to be in her 30s or 40s, with short slicked-back hair, and wears a severe black suit, a tie, and glasses. She is unmarried. She is extremely dismissive, talking over the journalist and ignoring what he says. This librarian certainly embodies the stereotype that William Form found in his survey of college students in 1946. In describing their idea of a

librarian, the students' answers could have been pulled directly from a viewing of *Citizen Kane*: "librarians are… ignorant, impatient, pretentious, old-maidish, and introvertic" (Form, 1946, p. 854).

The 1946 movie *The Big Sleep* stars Humphrey Bogart as private detective Philip Marlowe and Lauren Bacall as the eldest daughter of a wealthy retired general who is being blackmailed. Marlowe stops in at the Hollywood Public Library to research titles of first edition books so that he can trick a local bookseller into giving him information. There are two librarians in this library. The secondary librarian who can be seen in the background is 30ish and wears her hair in a bun. The main librarian is in her 20s or 30s, has her blonde hair in a bun, wears glasses, is unmarried (no wedding ring), and primly dressed with a wide white collar. She asks Marlowe if he has found what he wanted, and then says, "You don't look like a man who'd be interested in first editions" (Warner, 1946). Marlowe obviously takes this as an insult because he answers, "I collect blondes in bottles too" (Warner, 1946), and thus manages to return the insult. This librarian conforms to the prevailing stereotype of the time as "prim, austere… superficial, petty, tyrannical technicians who yearn for the status of… doctors, lawyers…" (Powell, 1959, p. 17).

Another negative portrayal of a librarian from this era can be found in *It's a Wonderful Life* (1946). A guardian angel shows a suicidal George Bailey (played by James Stewart) what the world would have been like if he had never been born. He is brought to the Potterville Public Library where Mary Hatch (played by Donna Reed) is locking up the library for the night. Mary would have been married to George if he had been born, but alas, she remained unmarried and so became a librarian. Her hair is in a bun, she wears a conservative suit with a masculine hat, and wears glasses. As she walks down the street she hugs her purse to her chest and looks unhappy and frightened. As the music swells, the audience is meant to think, "No! Not a librarian!" Mary is exactly what Ferguson describes as "physically unattractive, pitiful, irrational, queer and finally crazy" (as cited in Ferguson, 1991, p. 132).

Good News (1947) did not bring great news for the image of the librarian. This film is a light-hearted musical about a college football star, Tommy Marlowe (played by Peter Lawford). Tommy falls for his French tutor, Connie Lane (played by June Allyson), who also happens to be the assistant librarian at the college library. When Tommy asks Connie why she works in a library, she answers, "Oh, it helps pay my tuition, it's something called working your way through college" (Freed, 1947). So, the librarian in this movie seems to conform to the image of the unmarried woman who needs money. Connie is portrayed as sex-less when she first appears: while all the other girls are dressing for a sorority party, Connie is fixing the pipes and has her head under the sink. When she is in the library, Connie's appearance is mostly against type: no bun, no glasses, young and attractive, but she does wear a conservative dress (although one which sports fashionable polka dots).

Interestingly, Connie is really just a student worker in the library. We see the real librarian in a scene where Connie is shouting out the window to the football team. The librarian is in her 60s, with a grey-haired bun, who says, "Shhh" at Connie. Also, as Connie dresses for the prom, she asks her friend, "How do I look?" Her friend answers, "You sure don't look like a librarian," and Connie says, "Oh, I don't feel like one" (Freed, 1947). This difference between the image of the library worker and actual librarians is interesting to note because Leigh and Sewny postulated that the main source of the negative image of the librarian is:

> The failure of library users to see that not all the people who work in libraries are librarians; the greater visibility of desk assistants performing routine clerical duties in direct contact with patrons, compared with the librarians performing the more important and interesting professional tasks behind the scenes. (1960, p. 2090)

The irony is that Connie as the library worker is fresh, attractive and personable, while the librarian is stereotypically harsh and dowdy.

The last movie from this era, and the most positive portrayal of librarians, was *Desk Set* (1957). This iconic librarian movie stars Katherine Hepburn as the head librarian, Bunny Watson. It is set in the reference department of the "Federal Broadcasting Company" and features four librarians who are faced with the installation of a huge new computer, called EMERAC, that will "free the worker from routine and repetitive tasks" (Ephron, 1957). In many ways this movie breaks the mold of the prevailing librarian stereotype. The librarians sit at desks, trading jokes and answering quirky questions from unseen callers. True to the stereotype, all four women are single and talk about the desire to get married and how to catch a man. Three out of four are reaching "old maid" territory (over 30 years old). One of them comments on her single status: "You go along thinking you're not going to be alone any more, and then one day you realize it's all over, you're out of circulation" (Ephron, 1957). She then turns the image on its head by declaring, "When that day comes, we'll move in together and keep cats. I don't like cats, I like men and so do you" (Ephron, 1957). Although these librarians may conform to the image of the know-it-all librarian, they certainly subvert the stereotype with many witticisms. They also destroy the "shushing" librarian by being loud and funny, and whooping it up at the office Christmas party - - drinking and dancing. This portrayal runs contrary to the idea that librarians are "less likely to go to nightclubs than are receptionists or department-store buyers" (Jones, 1960, p. 34).

2000s Movies

In addition to looking at the physical attributes and characterization of the librarians in this set of movies, the incorporation of technology in the portrayal of the profession was also noted. "In recent years, digital technology has transformed how librarians identify, collect, and organize information. Librarians are increasingly associating themselves with computers rather than books" (Adams, 2000, p. 287). With this in mind, the expectation would be that the portrayal of librarians in these recent films would reflect the changing technological environment of the library.

The first movie analyzed was *Tomcats* (2001). This movie is a broad comedy about a group of men who made a bet in their twenties about who can stay unmarried the longest. Michael Delaney (played by Jerry O'Connell) decides to pick up the seriously repressed and mousy librarian, Jill (played by Heather Stephens), at the local public library. When she first appears in the library scene, there is nary a computer in sight, and she is carefully shelving books. Jill's hair is in a bun (with what looks suspiciously like a pencil sticking out of it). She wears glasses and a cardigan. This stereotype gets completely turned on its head, for broad comic effect, of course. Jill turns out to be a dominatrix who lives with her grandmother in a house resembling a sadomasochistic playground. She says things like, "One whack for every overdue book" (Garner, 2001). And, of course, the grandmother turns out to not only be a retired librarian (also clad in pearls and a bun), but is a dominatrix to boot! Besides the humor factor, this depiction does conform to the "sexy" repressed librarian image, serving to replace one broad stereotype with another: she is either virgin or whore, with nothing in between.

The Emperor's Club (2002) has a brief, but important, librarian scene in it. This movie is set in a private boys' school in which a contest, called the "Mr. Julius Caesar," is run every year. The boys compete in a series of quizzes to test their knowledge on various subjects. One of the boys, Sedgewick Bell (played by Emile Hirsch), goes to the school library to try to take out a popular book overnight. The librarian is hunched over a desk in a dimly lit library with no computers in sight. Miss Peters (played by Molly Regan) is unmarried, dressed conservatively with a high neckline, and wears a cardigan. Her hair is chin-length and is not in a bun, but she does wear glasses. She will not allow Sedgewick to take out the sought-after book overnight. She displays no humor or warmth. Sedgewick tries to flatter her hairstyle, by saying, "Is that new?" She responds, "I've had it since 1958" (Abraham, 2002). Radford and Radford suggested that librarians could be seen as fearsome because they are the "guardian[s] of rationality" (1997, p. 259). This fear can be "managed, defused, and disguised [because] beneath the stern exterior, there is nothing to fear: there is only a woman" (Radford & Radford, 1997, p. 261). When Sedgewick tries to flatter Miss Peters, perhaps he is managing the inherent fear found in the stereotype of the rule-following gate keeper of knowledge.

The image of the librarian in *The Station Agent* (2003) was the most positive characterization in all of the films. Finbar McBride (played by Peter Dinklage) is a man with dwarfism who inherits an old dis-used train station in a small town in New Jersey. He moves into the station and reluctantly befriends the quirky citizens of the town. The library scene takes place in the Newfoundland Library where Emily (played by Michelle Williams) is walking with a couple of books in her arms. The first thing that comes out of the librarian's mouth is a scream, because Fin's presence startles her: not what one would expect from the stereotypical shushing librarian. Also against type, she is young, wears her hair long and loose, and is in a tshirt and jeans. There are no glasses in sight. She is even wearing fashionable and decidedly unpragmatic heels. She is unmarried but has a boyfriend, smokes and is pregnant! There is a computer monitor in clear view on her desk. This is a real woman, warts and all. There is a wink to the stereotype in a line at the end of the movie. Fin's friends ask if he will date Emily. One says it is "the ultimate librarian fantasy: Glasses off, hair down, books flying." Fin says, "She doesn't wear glasses." The friend replies, "Buy her some, it's worth it" (Skalski, 2003). This humorous reference to the

glasses, as part of the stereotype, underlines the fact that Emily does not represent the common stereotype.

We return to the prevalent image of the librarian in *Because of Winn-Dixie* (2005). This movie is about a lonely girl, Opal (played by AnnaSophia Robb), who tries to find friends in a new town. She ends up at the local library where the librarian, Miss Franny (played by Eva Marie Saint), is sleeping at her desk. She is in her 70s or 80s, has a bun, wears glasses and is sporting a high-collared dress. At first she says that Opal cannot bring her dog into the library, but then she relents and lets Opal break the rules. The librarian is very kind to Opal, befriending her and telling her a story about a bear that once broke into the library. Opal asks Miss Franny if she was ever married. The librarian replies, "I didn't have the need…I have these books" (Albert, 2004). There is no computer in the library. This movie librarian seems to have taken one of Wallace's suggestions on changing the librarian image: "Above all, be nice to those children" (1989, p.25)!

There is a small librarian scene in the film, *I Love you, Beth Cooper* (2009). This movie is about a group of students graduating from high school. The two male leads, Denis Cooverman (played by Paul Rust), and Rich Munsch (played by Jack Carpenter), are talking about their plans in the school library. The African-American librarian (un-credited, played by Natalie von Rotsburg) is seen in the background chatting with groups of students at tables. She looks to be in her 30s or 40s, short hair (no bun) and no glasses. She is dressed in a conservative suit, with pants and a blazer. The boys get shushed not once, but twice. After the second shush, one of the boys looks over to her and says, "Seriously?" (Barnathan, 2009). As the shot pans over the library, a group of computers can be seen at a study table. It is ironic that the library itself is presented as a more modern "learning commons" space, with computer stations and group study tables, and yet the librarian conforms to the stereotype by sternly shushing the boys – and she does it immediately after we see her chatting openly with a group of students!

The last movie of the modern set was *Arthur* (2011). The movie is about a spoiled wealthy layabout, Arthur (played by Russell Brand), who sees the error of his ways, gets sober, and tries to date the young author, Naomi Quinn (played by Greta Gerwig). At the end of the movie, Arthur finds himself at the New York Public Library listening to Naomi reading from her new book to a group of children. Throughout the scene, the librarian (un-credited, played by Pamela Holden Stewart) can be seen sitting at her desk, diligently working away. There is a computer monitor in front of her and another public terminal off to the side of the desk. The librarian appears to be in her 50s, with her hair up in a bun, high-collared blouse, and glasses. She does not have a speaking (or shushing!) part, so it is difficult to describe her characterization.

Results

The physical characteristics that have consistently been identified with librarians in movies are: (a) age, (b) hairstyle, (c) eyeglasses and (d) modest clothes (Tevis & Tevis, 2005, p. 17). Of the six movies from the 1940s and 50s, all six featured librarians over 30 years old, with one of them including a 20 year old student assistant and one featuring a librarian in her 20s. Of the librarian characters in six films, five out of the six featured buns and one had short hair. Four of the six movies included librarians wearing glasses, and all six wore conservative clothes. Had anything about appearance changed in the movies from the 2000s? Four of the six modern films featured

librarians over 30 years old. Three out of six librarian characters wore glasses. Five out of six emphasized conservative dress (see Figure 1 in Appendix).

As we have seen, librarians in film are often characterized as unmarried "spinsters." "Some women are portrayed as teachers, nurses, or librarians who, due to circumstance beyond their control, end up as spinsters" (Ferguson, 1991, p. 131). Of the 17 librarians in the 12 movies, 12 librarians were unmarried. The matrimonial state of the remaining librarians was unclear. In the modern movies, four out of six were unmarried, and two unknown. None of the 17 librarians were known to be married. In 2010, women comprised 47% of the United States labor force, and 58% of US women over the age of 16 were labor force participants (U.S.

Department of Labor, 2010). One would assume that with these facts of women's employment, we would see more representations of married librarians. As can be seen in Figure 1 (in Appendix), there has been little change in librarians' marital status depicted in movies.

When looking at these portrayals of movie librarians, one would hope that because the role of librarians has changed, as a result of new technologies and use of space, the characterization would also have changed. In five of the six movies from the 1940s and 50s, the librarian is stern or mousy. Only in *Desk Set* do we see librarians who are cheerful and witty. Of the six modern films, only in five was there sufficient conversation or even facial expression to describe their demeanor. Of those five, two librarians were stern, one was mousy, one was kind and one was a "normal" personality, i.e., no defining stereotypical traits (see Figure 1 in Appendix).

In the last 60 years we have seen the eradication of rubber stamps and card catalogues and the "growing development and widespread use of electronic information retrieval technologies in modern libraries" (Radford & Radford, 1997, p. 251). One of the more contemporary themes analyzed when comparing the movies from each era was the use of computers. Obviously, the portrayal of computer use was not expected in the 1940s/50s movies, but there was full expectation of evidence of computers in the films from the 2000s. By including the computer in the library workplace, *Desk Set* was an anomaly. A surprising finding was that only three of the six modern movies used computers in the library setting. One would hope that, as the modern library has become a more dynamic gathering place and information hub, the perception of the role of the librarian will change and thereby filter into representations in the media.

Combatting the Stereotype

In comparing the movies from eras 60 years apart, we can observe whether or not any of the films fought the stereotypes by using the approaches outlined in the more recent studies: (a) reverse the stereotype, (b) substitute a range of positive images, or (c) contest from within, or "own" it (Adams, 2000; Duncan, 2004; Radford & Radford, 2003; Wallace, 1989). Of the movies from the 1940s and 1950s, only two showed non-stereotypical representations of the librarian. Even though the young assistant librarian in the film *Good News* (1947) substitutes a range of positive images (fashionable clothes, no glasses, funny and personable), there is still a stereotype represented by the older, stern, shushing librarian. Although the librarians were unmarried in *Desk Set* (1957), it is the only movie studied from the earlier era that depicted

overall positive characterizations of librarians. One could argue that because all the librarians in *Desk Set* (1957) were unmarried, they were not fully reversing the stereotype, even though the rest of their traits effectively reversed the usual portrayal. This paper would also suggest that the character of Bunny Watson actually "owns" the stereotype with her bun (complete with pencil sticking out) and her vast intellect; she obviously has fun exaggerating these traits, while also displaying traits that are the reverse of the prevalent image.

Of the modern era movies, it was found that only three of them combat the negative librarian stereotype, each in different ways. The substitution of positive images can be found in the Miss Franny character in *Because of Winn-Dixie* (2005). Although all of her physical traits conform to the stereotype, she is very kind and friendly to the young girl, Opal. We find the reversal of the stereotype in both *Tomcats* (2001) and *The Station Agent* (2003). The librarian in *Tomcats* is the typical librarian in her workplace, but then she morphs into a dominatrix at home. Not particularly a reversal of stereotype that furthers the cause! Also, because this "reversal" was not in her workplace, it could be argued that it is not a true reversal. Emily, the librarian in *The Station Agent*, is the only librarian among all 12 movies that truly is a reversal of the stereotype. Even though she is unmarried, she not only has a boyfriend but is also pregnant.
Every other aspect of her character is the "young, cool, and hip" (Radford & Radford, 2003, p. 67) depiction that can be seen as a reversal of stereotype.

Conclusion

It is generally agreed that "Hollywood movies influence the public's thinking about the image of librarians…[and] by looking at Hollywood's treatment of librarians we discover indications of how the public views us" (Walker & Lawson, 1993, p. 16). Throughout the last 60 years, with more and more women participating in the workforce and the lines between gender roles being blurred (Newmyer, 1976), one would assume that the pervasive negative stereotypes of female librarians found in movies from the mid-20th century would be mitigated in the 21st century films. Moreover, with the surge of technology within the field of library science, the development of the internet, and the availability of websites that allow real librarians to present their own multi-faceted images to the world, one would expect the eradication of the negative stereotype (Stevens, 2001).

As the boomer generation retires in droves, "the image of librarians becomes even more important" (Peresie & Alexander, 2005, p. 24). Who will want to become a librarian when bombarded with caricatures of the profession? It would be an interesting and important future study to replicate Form's 1946 survey, albeit with more standardized methods, to discover what people think of librarians now, and if the results align with the modern film depictions. Moreover, because the next generation of librarians will not only be at ease in the high-tech

world, but will depend upon it, any future surveys should tap into teens and/or young adults' perceptions of librarians. As the results in this paper have shown, there really has been little change in the image of the librarian in movies in the last 60 years. There is some movement though with the inclusion of technology in library scenes and the characterization of a librarian as a fashionable, regular young woman, like Emily in *The Station Agent* (2003). As more of these progressive images are included in movies, the collective perception of the librarian will begin to change. The tired portrayal of the stern countenance, the bun and spectacles, will be replaced by a dynamic, engaging and real person…who just happens to be a librarian.

Appendix

Figure 1: Comparison of librarian traits.

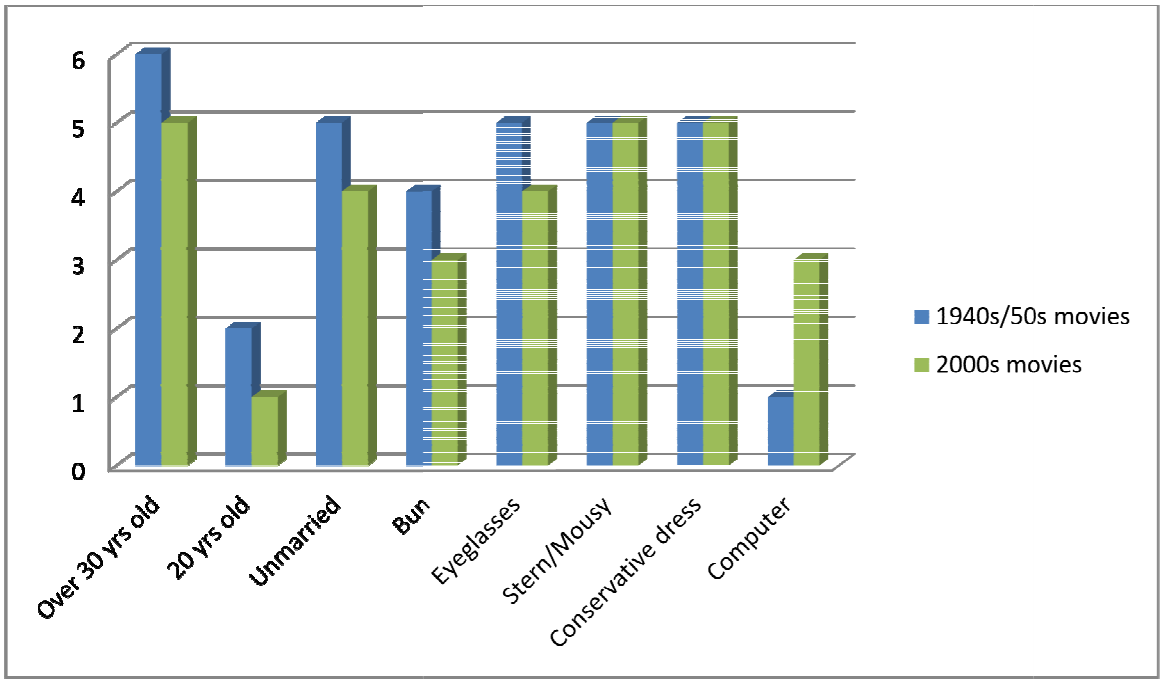

Figure 1. Comparison of stereotypical librarian characteristics found in six movies from the 1940s/50s and six movies from the 2000s. Each bar represents the number of movies in which these characteristics were found.

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Open Source Integrated Library Systems in Public Libraries

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Open Source Integrated Library Systems in Public Libraries

Increasingly, the face of the public library is no longer a bespectacled librarian behind an orderly desk. For many patrons the entryway to the library is now a computer screen. The era of electronic access is a Pandora's Box filled with promise, educational riches, and challenges. To bring that access to reality, information professionals make countless decisions from the mundane to the critical that shape what a patron sees when searching for information. One of the most fundamental decisions is the choice of an integrated library system, or ILS. The ILS usually provides the online public access catalog (OPAC) and can provide much of a library's administrative functionality. These tools affect how the information is delivered, not only in presentation but also in content. The selection of an ILS has far-reaching effects on the activities of patrons, librarians, and administrators.

The authority and reputation of a library is subject to relationships made with outside interests in order to provide resources to patrons. A library's acquisitions department is subject to commercial interests from major publishers and commercial databases (Campbell et al., 2007; Progressive Librarians Guild, 2009; The Editors of The Lancet, 2007). Budgetary constraints from funding sources put a constant limitation on a library's ability to help its community. Relationships with local government are strained by budget, censorship, and privacy concerns (Cowan, 2005).

Many of a library's outside relationships have few alternatives. For example, unless the publishing industry can transform into a self-publishing model, it will remain in the commercial sector. The scholarly journal database companies might be disintermediated by the nascent open access movement but that remains to be seen. Funding from local governments for public libraries is unlikely to improve soon as the trend in recent years has been significant cutbacks (American Library Association, 2011a):

- A majority (59.8%) of public libraries reported flat or decreased operating budgets in FY2011, up from 56.4% in FY2010 and 40% in FY2009.
- Almost two-thirds (65%) of libraries anticipate flat or decreased operating budgets in FY2012.
- Staff salary/benefits expenditures that had plummeted 43.2% in FY2010 only dropped 8.6% in FY2011. (American Library Association, 2011b, p. 13).

Libraries have very few options to save money on publishers and database providers. There is not much more that can be cut from salaries, and funding sources are not going to increase any time soon. But there is one solution that has only recently become viable. A public library can switch its ILS to free and open source software, or FOSS.

This report will draw together many sources to show that FOSS ILSs have become mainstream, reaching a 14% market share as of 2012 and achieving equivalent functionality to proprietary systems. The report argues that FOSS ILSs not only beat proprietary systems on the basis of cost, but remove unwanted outside influence, and are an appropriate choice for philosophical reasons. Included is: a timeline of published evaluations, the significant milestones, a summary of the current landscape, financial analyses, and example implementations. Case studies are presented showing public libraries that have safely made the switch to FOSS ILSs and are satisfied with the functionality. Beyond the immediate financial and practical arguments, a philosophical

analysis shows a fundamental alignment between libraries and the open source community. This alignment includes many commonalities and a clear mandate from library leadership.

Finally, all of these findings are assembled to propose an effort to "Buy Back America's Libraries," returning ownership of the keystone of our public information infrastructure to the people.

Background

The type of system referred to herein as an "Integrated Library System" has been known in various times and locales as a library automation system, library management system (LMS), or online circulation system (Hadro, 2009; Rubin, 2010). An ILS can provide most of a library's operational functions, including acquisitions, cataloguing, circulation, and the OPAC (Rubin, 2010; Taylor & Joudrey, 2009). Almost all public libraries in the U.S. use an ILS (Breeding, 2011c). An ILS can be either proprietary or open source.

One of the challenges associated with free and open source software (FOSS) is explaining it succinctly. In short, the underlying code is not protected by technological methods, and the final software package is released free of charge. "The defining characteristic of open source software is that the license encourages people to modify and improve the software and make the resulting improvements available to others for further enhancement" (Rubin, 2010, p. 340). Rather than development being funded by sales, it is funded directly by users who wish to have certain priorities met. A market-driven network of companies and independent contractors provides support. In contrast, proprietary software is usually owned, sold and supported by the same for-profit company. [For a more detailed introduction to open source from a librarian's perspective, consult articles by Colford and by Poulter (Colford, 2009; Poulter, 2010).] According to evaluations from a wide range of studies and opinions, the viability of FOSS ILSs has steadily increased since the first system was released in 2000. A timeline of evaluations follows, showing a progression of opinion from skeptical, to hopeful, to impressed. A similar increase in adoption rates will be shown as well.

In 2002, an overview of the first FOSS ILSs found that they were not yet as functional as commercial systems, but might work for certain small libraries:

> In their current state, the open source automation systems offer only promise and potential and are not yet a viable option for a run-of-the-mill library. Even for small libraries that might be satisfied with the capabilities of the open source systems, the technical implementation and difficulty in securing ongoing support remain a challenge.
>
> Yet… open source systems could soon surpass (or may have already) the features of some of the commercial systems that target small libraries. (Breeding, 2002, p. 43)

Wayne (2007) compared open source ILSs side by side with proprietary systems, and reports that the ILS market felt consolidation turbulence and saw increased interest in FOSS. Also in 2007, the American Library Association promoted the use and support of open source library applications, saying, "Because open source software is becoming increasingly robust, libraries no longer need to rely solely on expensive proprietary

software" (American Library Association, 2007, p. 14). However, this recommendation did not specifically mention ILSs.

By 2008, the viability of FOSS ILSs had increased beyond small libraries. "Open source library management systems have improved steadily in the last five years. They now present a credible option for small to medium libraries and library networks" (Balnaves, 2008, p. 1). Moreover, "the functionality and installed base of open source LMSs have evolved considerably" (Balnaves, 2008, p. 7) and includes a diverse selection of systems. According to earlier research by Moffitt (as cited in Hadro, 2009) fewer than 2% of U.S. public libraries were using open source systems, most of which were small libraries. In their discussion of the history of ILSs, Taylor and Joudrey (2009) mentioned the growing popularity of open source ILSs, noting that "the number of open-source systems is still rather small, but it is predicted that OSS ILSs may gain greater market share in the near future" (p. 166).

In early 2010, library technology researcher Marshall Breeding noted, "library automation based on open source software has become a major trend" (Breeding, 2010). Breeding is also the author of an annual Automation Marketplace survey of over 2,100 libraries about the ILSs in use and satisfaction with them. The 2011 survey, conducted in 2010, found "just over 10% of survey respondents currently operate open source ILS products, with generally moderate to high satisfaction scores" (Breeding & Yelton, 2011, Chapter 2, p. 10). If Moffitt (as cited in Hadro, 2009) and Breeding were using the same scale, this increase would be increase, from under 2% to over 10% in just a few years.

By 2011, functionality of FOSS ILSs had improved as well. In that year another researcher reported, "Increasingly, the quality of FOSS products is easily comparable to that of proprietary ILS products developed by commercial software vendors" (Müller, 2011, p. 57). The 2012 annual Automation Marketplace survey (from 2011 data) showed an increase in libraries switching to FOSS ILSs, an increase in the software as a service (SaaS) model, and reported that "Evergreen and Koha ILS products have become mainstream. Both offer features comparable to proprietary products" (Breeding, 2012).

In 2013, the same Automation Marketplace annual survey (published in April 2013 and presumably conducted in 2012), reported that:

> Open source ILS products, including Evergreen and Koha, continue to represent a significant portion of industry activity. Of the 794 contracts reported in the public and academic arena, 113, or 14 percent, were for support services for these open source systems. A growing number of projects involve regional or statewide projects based on an open source ILS. These include NCcardinal in North Carolina, the SPARK catalog in Pennsylvania, three regional libraries in Massachusetts, and SCLENDS in South Carolina. (Breeding, 2013)

This survey result indicates another significant increase: from 10% in 2010 to 14% in 2012. For perspective, consider that in the United States alone there are well over 9,000 public libraries (many with multiple branches), most of which use an ILS (American Library Association, 2011c; Breeding, 2011c). FOSS ILSs have now surged to a 14% market share, and have gained comparable features to proprietary systems. FOSS ILS users are no longer a fringe element.

Next we will look at some of the particular systems available, and see how some libraries have made decisions.

The Landscape of FOSS ILSs

The first open source library automation software system, Koha, was developed in 1999 and released in 2000. Koha began in New Zealand when a library needed to replace its older proprietary automation system with one that could properly handle the year 2000 (Koha Library Software Community, 2011). Until this time library systems were proprietary, but the Koha developers decided upon an open source model. Koha has been in active development since then, and has grown to be one of the leading FOSS ILSs.

Evergreen started in Georgia in 2006 and has quickly grown to become one of the leading contenders in this market (Evergreen Project, 2011b). Evergreen has experienced a recent burst of development, which will be detailed shortly.

OPALS is one of the leading ILSs in school libraries, besting proprietary systems in user satisfaction (Breeding & Yelton, 2011). Other FOSS ILSs include PMB, Gnuteca, NewGenLib, OpenBiblio, Emilda and PHPMyLibrary. These have achieved varying degrees of adoption, functionality, and community strength. Some are most appropriate for specific types of libraries (academic, international, etc.). Depending on a library's environment and particular needs, these other systems may be a step behind the leaders, Evergreen and Koha. Kuali OLE is in early development as of December 2011. It is an extensible LMS for academic and research libraries that will be an "enterprise-ready, community source software package to manage and provide access not only to items in their collections but also to licensed and local digital content" (Kuali Foundation, 2011, para. 1).

Examples Illustrating FOSS ILS Advantages

Financial Advantages

Cost savings is usually the first topic raised regarding FOSS. This reaction is understandable as cost is quantifiable, while discussions of features are more complicated and technical. Decision-makers want to know the bottom line: Can FOSS ILSs save money? There are three main components of ILS pricing. Proprietary and open source systems both have initial transition costs, including migration of data, configuration and training of staff. Both types of ILSs have ongoing costs associated with hosting, whether onsite or remotely provided. The third component is ongoing post-transition maintenance and upgrade costs, which are very different for these two models.

Proprietary ongoing costs can be difficult to quantify because proprietary ILSs have variable pricing, scalable systems, unpublished prices, and vendors that require non-disclosure agreements. These factors make it very difficult to compare prices (Breeding, 2009). Proprietary system pricing can be predictable month-to-month when contracts are yearly. But even these costs are unpredictable year-to-year because prices can and do increase each year. Furthermore, there is little control over when features are added and issues are fixed. Open source ILSs have their own budgeting vagueness, but the difference is control and choice.

FOSS ILS costs after migration and installation are dependent upon improvements that a library wishes to implement. If a library would like to add a new feature, it would get a quote from a developer (often a support company with whom it has a previous relationship). If an unexpected budget cut hits the library, it can simply wait to do that work. Another approach to less urgent needs is to hope that someone else using

the same FOSS ILS adds the feature, which would then be included in the next release at no cost. Of course, some bug fixes are urgent and not optional. But most of the time, this flexibility is very valuable. A library has control over what it spends dependent on the urgency, and is not "locked in" to a fixed cost.

For an example of ongoing proprietary pricing, the San Francisco Public Library (SFPL) spent $253,984 on ILS software in FY 2010-2011 (City and County of San Francisco Office of the Controller, 2011). A similar amount is paid every year. This is not a software purchase, and does not include training and maintenance, as detailed in Figure 1, which shows 2009-2012.

City and County of San Francisco
Vendor Payment Summaries Website
Search Results by Vendor, Department, Type of Goods and Services

				Payments				
Vendor Names	Non Profit	Departments	Types of Goods and Services	FY 2009-10	FY 2010-11	FY 2011-12	In Process	Remaining Balance
INNOVATIVE INTERFACES I								
		PUBLIC LIBRARY						
			TRAINING	$1,050	$200	$0	$0	$0
			OTHER CURRENT EXPENS	$232,567	$253,984	$226,249	$0	$0
			MAINTENANCE SVCS-EQU	$285	$285	$0	$0	$285
				$233,902	$254,469	$226,249	$0	$285

Figure 1: City and County of San Francisco summary of vendor payments to Innovative Interfaces for 2009-2012 (data as of 1/28/12).

That amount of money spent each year could pay for a full-time team of programmers to augment an open source ILS lacking any features needed by the library system. This approach was taken by King County Library System (KCLS) in Washington, one of the largest library systems in the nation. These two systems are comparable: while SFPL serves a smaller population and has fewer branches than KCLS, it holds a larger collection (Breeding, 2011c). In 2009, the Institute of Museum and Library Services (IMLS) granted about a million dollars to a project called "Empowered by Open Source" to spur the development of open source ILSs in large library systems. KCLS, the lead library of the twelve-library system project, chose to use and improve Evergreen, one of the leading open source ILSs. The grant and resulting Evergreen work was intended to have a multiplying effect for all libraries because open source improvements are given back to the community (Hadro, 2009; Rapp, 2011).

KCLS launched its new Evergreen system in September 2010, and in the following 14 months of in-the-field use it encountered and fixed significant limitations of the software. For example, the KCLS team contributed

- a rewritten, faster online public access catalog (OPAC),
- an ecommerce fine payment system,
- acquisitions improvements,
- MARC record importing improvements,
- self-checkout speed and interface improvements,
- a new telephone notification system,
- Electronic Data Interchange (EDI) accounts for ordering materials,
- a mobile-device accessible catalog, and
- established an administrative, development and governance structure (Moffitt, personal communication, December 1, 2011).

The subsequent versions of Evergreen, built with code contributions from KCLS and others, contain hundreds of significant improvements including

- paper and electronic serials prediction and check-in,
- authority record management,
- complete MARC record import/export with batch processing,
- OCLC Connexion support,
- federated Z39.50 bibliographic search,
- a customizable Template Toolkit OPAC (TPAC), and a Kids OPAC (KPAC) for children/teens, and
- many administrative and patron interface improvements (Evergreen Project, 2011a, 2011b, 2013).

This development period was a significant milestone. By taking the lead and bearing the brunt of the challenges, KCLS has pushed Evergreen to the next level. The patrons of KCLS sacrificed some features at first, and there were complaints (Breeding, 2011a; Rapp, 2011). But in the following months bugs were identified and fixed, and new features were commissioned and built into Evergreen. KCLS believes that because of this trial-by-fire, future libraries will not experience such disruption, and Evergreen has been proven as viable for a large library system (J. Moffitt, personal communication, December 1, 2011).

KCLS switched to Evergreen from the proprietary system Millennium. KCLS Information Technology Services Director, Jed Moffitt, reports that the conversion and installation of the new ILS cost the library "about the same price as it would cost to repurchase Millennium [for one year]… Support costs for Evergreen are about 70% of its former Millennium support charges… and combined with other expenses (including elevating a staff member who became an Evergreen expert), the tab for the new system is about the same as the old one." (Rapp, 2011) However, because KCLS was building major updates to Evergreen, this cost level is likely a ceiling. Few libraries would need to do that amount of development now that Evergreen has been advanced so far.

Nine libraries are taking part in the IMLS "Empowered by Open Source" grant with varying levels and types of input. Some have made the transition, some have chosen

to wait for Evergreen to mature before switching, and one has decided not to switch (J. Moffitt, personal communication, December 1, 2011).

An example of a smaller library that switched to a FOSS ILS to save money is the Crowell Public Library in San Marino, CA. This library serves a population of 13,000, has 38,000 patrons (many from adjoining areas), and has an 80,000 record database. In August 2010, the library was paying $60,000 per year for SirsiDynix Horizon and it switched to a software as a service (SaaS) hosted version of LibLime Koha for $7,000 per year (McDermott, 2012). The decision was made primarily on price, forced by city management. Yet the library reported a quick, easy migration and satisfaction with Koha despite a few quirks. The library's Reference Librarian/Systems Manager describes many details of the transition, reporting, "in spite of its oddities, I believe LibLime's Koha operating as SaaS was the best choice for our new library ILS" (McDermott, 2012, p. 11). Further, he stated, "I urge public libraries under budgetary stress to consider a migration to an open-source-based ILS" (McDermott, 2012, p.44).

The examples of KCLS and the Crowell Public Library show that switching to a FOSS ILS has definite financial advantages. As stated earlier, there are approximately 9,000 public libraries in the United States. Consider for a moment what could be achieved if the savings achieved by these particular libraries were achieved on a wider scale. But more importantly, note that these savings could then be pooled towards developing common solutions that would benefit all libraries, from SFPL to a rural one-room library. This is a fundamental tenet of FOSS: By aggregating the money previously spent on proprietary software, an economy of scale creates rapid progress. In the conclusion of this report, a proposal is offered to utilize this powerful effect to benefit all libraries.

But clearly price is not the only factor. Next, it will be shown that flexibility and freedom from vendor lock-in are also significant advantages offered by FOSS ILSs.

The Advantage of Choice and Diversity

In a 2010 survey, Breeding and Yelton note a trend regarding an expansion of the number of FOSS ILS support companies in the marketplace. For example, the number of companies that support the Koha FOSS ILS went from one in 2007 and 2008, to four in 2009, and jumped to nine in 2010 (Breeding & Yelton, 2011, Chapter 4, p. 32). This trend is evidence of a more diverse and hearty ecosystem, which is one of the pillars of a successful FOSS project (Stürmer, 2005). Companies providing support to FOSS ILSs include LibLime, Bywater Solutions, and Equinox.

An advantage born of a diverse vendor landscape is a library's ability to choose a support vendor independently. The Complementary and Alternative Medicine Library and Information Service (CAMLIS) in London switched to the Koha FOSS ILS in 2007, and reported their experience in 2010. It had success "using two specialist software companies simultaneously which otherwise compete for business – a situation hardly imaginable in the world of proprietary LMS companies" (Bissels & Chandler, 2010, p. 289). This plurality fosters a competitive environment for support work that can only increase service quality. Rather than competing for the initial sale and then begrudgingly providing support as a cost of doing business, FOSS support vendors compete based on the quality of their actual support work. CAMLIS also found that "with full access to the code, free choice of vendors, and even the option to use more than one at a time, Koha

and other open-source LMS packages are much more future-proof than any proprietary competition" (Bissels & Chandler, 2010, p. 290).

Freedom from vendor lock-in is another strong incentive. For example, MassCat, a cataloguing service running Koha since 2008, was able to nimbly change support vendors in 2011 (from LibLime to ByWater Solutions), without changing software. This support vendor change was invisible to the patrons (Rapp, 2011).

A unique story comes from the Bloomfield-Eastern Greene County Public Library in Indiana. This library has used two FOSS ILSs. It first tried Koha in September 2008, but ran into problems with its consortium and with Koha. In September 2009 it switched consortia to join the Indiana State Library's consortium, which was using Evergreen. It found Evergreen to be more reliable, but acknowledged that this difference might have been due to the consortia and the support vendor, not the ILS itself (Helling, 2010).

La Conner Public Library in Washington switched to Evergreen from a proprietary ILS (InfoCentre) in March 2011, teaming up with the Burlington Public Library and Upper Skagit Library District. These smaller libraries found the changeover to be smooth and the new features an improvement over their old systems. They pooled resources and hired Equinox for support, finding the overall costs to be "less than an equivalent proprietary ILS installation" (Rapp, 2011, p. 36).

Sage Library System of Eastern Oregon reported its reasons for switching to Evergreen in 2010, saying it allows them "to take advantage of new features at no additional cost unless we choose to fund development" (Longwell, 2010, p. 17). Moreover,

> access to and control over our data… opens the door to interface possibilities with other software, interoperability which can create greater efficiency for patrons and staff. Ultimately, by using open source software for our ILS, we have the freedom to choose how our money is spent, whether on strengthening in-house support or contracting out for support services. (Longwell, 2010, p. 17)

These stories indicate that flexibility and support options are important to a diverse set of libraries. Again, FOSS ILSs meet the needs of libraries in a way that proprietary vendors do not. Next, it will be shown that that the governance of the organization behind a software solution, whether proprietary or open source, is an important factor to consider.

Analysis

Open Source Trends

The cases described above tend to show a pattern that the more recent the conversion to a FOSS ILS, the smoother the transition. Does this trend indicate that these systems are now more mature? How can the maturity of an open source project be measured?

As a general trend, FOSS ILSs may be following the same path in the library and information science (LIS) sector as has occurred in other sectors. Spinellis and Giannikas (2012) found that in the business world, the main advantage of open source software was lower cost, and it was most likely to be adopted in "stable slow-growth environments with a large number of software installations" (p. 14). This description fits libraries well, and ILSs are a long-term decision. They also found that FOSS is more likely to be

adopted at the individual application level before being adopted at the platform level (ie. ILS). Consistent with this finding, FOSS is very present at the application level in libraries, including

- web browsers (e.g., Firefox, Chromium, Camino);
- digital preservation tools (e.g., ACE, EMET, INFORM, JHOVE2, Transfer Tools);
- archives management (e.g., ArchivesSpace, Archivists Toolkit, Archon);
- general purpose software (e.g., OpenOffice, LibreOffice);
- reference management (e.g., Zotero, many more);
- operating systems (e.g., Linux, Unix); and
- audio metadata editing (e.g., BWF MetaEdit).

Libraries also use open source software for purposes larger than applications which are comparable to the complexity of an ILS, following the predicted trend of prevalence at larger levels. Examples include

- discovery interfaces/next-generation catalogs (e.g., VuFind, Blacklight, eXtensible Catalog);
- digital archives/repository management (e.g., EPrints, DSpace, Fedora, Exhibit, Recollection);
- research discovery through semantic data (e.g., Vivo);
- scientific data (e.g., iRODS);
- non-integrated OPACS (e.g., SOPAC, CollectiveAccess);
- digital media interfaces (e.g., Variations);
- content management systems (e.g., Drupal, WordPress, Joomla);
- programming languages (e.g., PHP, Perl, C/C++, Java, JavaScript, Ruby);
- web servers (e.g., Apache); and
- databases (e.g., MySQL)

  (Association For Recorded Sound Collections, 2010; Dougherty, 2009; Fedora Commons, n.d.; LeFurgy, 2011; Parry, 2009; Smith, 2011; Trainor, 2009).

Consolidation and Controversy

A recent wave of mergers of the largest proprietary ILS companies has had a major effect on the ILS market and the library sector. "In 1990, there were approximately 40 companies providing library automation solutions; in 2008, because of a large number of mergers and buyouts, only about half are still in business" (Taylor & Joudrey, 2009, p. 166). From 2005 to 2008, a flurry of mergers concerned information professionals. Sirsi and Dynix merged in June 2005 (Dougherty, 2009). In 2006 and 2007, “Extensity became Infor Library and Information Solutions. Sagebrush was purchased by Follett Software Co. CASPR Library Systems has become Library World. Products [were] shifting too. Horizon and Unicorn merged into Rhome, which became Symphony” (Wayne, 2007, p. 23). OCLC took over eight other organizations. In Europe, Axiell Library Group acquired five companies (Breeding, 2011b). This wave of industry consolidation caused a significant loss of market competition, and limited vendor choices for libraries.

Another negative trend that compounded this consolidation effect was a round of buyouts by outside investment companies. The largest ILS vendors were bought up when equity firms saw the decreased lack of competition as an opportunity for profit. Francisco Partners, a private equity firm, bought Ex Libris and Endeavor in rapid succession (Breeding, 2011c), and "Vista Equity Partners acquired SirsiDynix in Jan 2007" (Dougherty, 2009, p. 483). Golden Gate Capital also invested in Infor. In 2008, Leeds Equity bought Ex Libris from Francisco Partners (Breeding, 2011b). Libraries were left wondering if the motives of the new owners would affect the product negatively. In for-profit sectors, private equity investment has been shown to successfully influence companies to prioritize short-term profitability towards the end-goal of selling off the company a few years later (Vester, 2011). "Private equity firms generally raise money to acquire, fix and sell companies, at a profit, on a timetable of five years or less" (Monks, 2012, p. 28).

This atmosphere of uncertainty due to mergers and outside ownership of proprietary systems drove some decision-makers to consider FOSS ILSs instead of changing or renewing ILS contracts. The uncertainty was not simply a vague undercurrent; libraries specifically mentioned the influence of these factors. For example, CAMLIS made the decision in 2007 to adopt Koha partly for cost savings, but also due to "a firm belief in the open-source concept and severe concerns about the suppliers of proprietary LMS packages, many of which had ended up in the portfolios of private equity firms at the time" (Bissels & Chandler, 2010, p. 284).

Open source software can be subject to undue influence from commercial interests as well. In a different chain of events that attracted attention, FOSS ILS Koha was caught up in controversy. In 2005, the leading Koha support company, LibLime, bought the copyright to the Koha code and took over the project. For four years, the project continued as before, with developers contributing to the open code. In 2009, LibLime announced "the launch of a proprietary version of Koha called Enterprise Koha. Buyers of this software would be the first to receive developed features and upgrades" (Helling, 2010, p. 703). LibLime Enterprise Koha (LLEK) was a new breed, running in the cloud and offering new features. LibLime promised to publish improvements publically on a delayed basis, but did not.

This move broke the two biggest rules of open source: giving code improvements back to the community for all to use, and not selling the software. (Selling support is essential but selling the software itself goes against the tenets of the FOSS model.) The non-LibLime users of Koha, including the original creators, were quite unhappy with this event, and struck out on their own to continue the project as true open source. When a software project experiences a division that creates two independent projects, it is called a "fork" (Willis, 2010). Following this fork, LibLime was acquired by Progressive Technology Federal Systems (PTFS) in 2010, consolidating two of the biggest Koha support companies. This acquisition concerned libraries for the same reasons as the consolidation of proprietary companies a few years earlier (Breeding, 2010). PTFS tried unsuccessfully to bring the two branches of the project back together, but the still-open branch community did not agree to the terms. A divisive battle ensued, complete with trademark lawsuits, name-calling, and significant damage to the reputation of Koha

(Willis, 2010). This fork and acquisition had a chilling effect on some libraries that were considering Koha.

Critical Mass, Tipping Point, or Isolated Surge?

Are the install base and developer community of the leading FOSS ILSs approaching a "critical mass" of adoption, after which a growing percentage of libraries will switch? Is the tipping point near? The market share statistics described earlier, showing that 14% of reported ILSs are FOSS, are based on an annual sample of about 2,100 libraries reporting to a survey about ILSs (Breeding & Yelton, 2011, Chapter 2, p. 10). While the survey was broad, the sample of libraries may not be large enough to be representative of the library population as a whole. Therefore, the exact percentage of libraries using a FOSS ILS out of *all* libraries could be lower. Still, the upward trend is clear.

Examples from open source projects in other markets can offer context. Successful open source systems tend to evolve slowly until they gain enough market share to be a safe choice, then they accelerate. Until a critical mass occurs, "the number of adopters grows very slow and product success is not necessarily ensured. But once the critical mass is reached, many customers have already adopted the product and it is time for other customers to follow suit," following a flattened-S (diffusion sigmoidal) curve (Midha & Palvia, 2011, p. 24). At this point the project is more sustainable in the long term.

One sign that an open source system has reached a critical mass is when development speeds up. The recent surge in development of Evergreen may seem like a sign that critical mass has been reached, but it is worth noting that this surge may be due to the large IMLS "Empowered by Open Source" grant. If so, it might not be a natural leap forward but may instead be a jumpstart from external influence. As for the noted increase in the number of Koha support companies, that may be an aftershock from the Koha forking controversy. A more valuable metric worthy of study would be the number of individuals working for open source support companies. Regardless of the reasons behind these trends, they show an active marketplace.

A factor that might be holding back open source adoption despite interest is reluctance to take a risk. There are signs of a pent up demand as libraries wait for others to test the waters:

> While the vast majority of libraries right now are invested in proprietary solutions, they are not necessarily committed. Technological, philosophical, or financial interests sometimes favor open source adoption. If a full-featured system with turnkey or cloud simplicity emerged, it could induce a tipping point in the market. (Breeding & Yelton, 2011 Chapter 2, p. 10)

Library systems may be more likely to jump on the FOSS bandwagon once they see what has been achieved at the huge KCLS. A switching trigger could occur when previously interested holdouts see that certain features have been implemented. Each time a new version is released, more adopters-in-wait may switch when they see that it contains certain sought-after features.

As choosing any platform is a long-term commitment, it is also worth considering what future trends will bring. Many proprietary vendors are beginning to offer hosted solutions and cloud delivery, which is a more turnkey solution allowing a

library to skip the cost of hardware (Breeding, 2011a; Cibbarelli, 2010). On the open source side, libraries are joining consortia to pool resources into one FOSS ILS installation, which results in a similar minimizing of hardware expenses with remote access (Helling, 2010; Longwell, 2010; Rapp, 2011). These trends require robust and consistent Internet access, which might be a barrier to rural libraries. These topics need more evaluation and deserve close monitoring.

Evaluation Methods

ILSs are continually changing, the systems are a moving target, and every library has different needs. How do libraries evaluate ILSs to decide upon the right choice at the right time? Two researchers have proposed specific, reusable methodologies for libraries to choose a FOSS ILS, because each evaluation situation is unique. In 2008, Balnaves proposed a FOSS ILS evaluation system for libraries. It described five dimensions to be examined. The first two dimensions had previously been used to evaluate proprietary systems: features of the system, and the platform. This new approach for FOSS added three dimensions: developer and support community activity, source code robustness and documentation, and the information schema and design (Balnaves, 2008).

In 2011, Müller described a multi-step process of elimination to evaluate FOSS ILSs. In this method, a long list of ILSs is narrowed successively. In the first step, the licensing agreement and community usage privileges are examined to ensure that the ILS is truly free and open source. The second step examines the project developer community for adequate size and activity, amongst other criteria. The final stage examines functionality with an exhaustive table of 799 criteria (Müller, 2011). It is notable that in this study's example evaluation, some ILS feature lists are already out of date, proving the point that each library must evaluate based on its own situation and time.

These concrete methodologies for choosing a FOSS ILS are helpful. But there is more behind this selection than financial calculations and functional aspects. Such a pivotal decision should be evaluated on additional, less quantitative levels as well. As libraries are more than a collection of books, and the mission of library workers is larger than merely lending these books, so should operational decisions be more than a checklist of features and prices. The philosophical dimension will now be considered.

Philosophical Alignment

A significant philosophical component exists in the discussion of open source software in public libraries. There is a striking alignment between the core values of the open source movement and those of librarianship. Philosophical debates are often abstract, with no clear conclusion. But in this case, the philosophical decision is so clear as to be undeniable, and supported in multiple ways. There is also strong guidance from library leadership and precedent from research.

In his third law, S.R. Ranganathan, possibly the most well-known library science theorist, advocates for open access to library resources.

> "By 'Open Access' is meant the opportunity to see and examine the book collection with as much freedom as in one's own private library. In an open access library, the reader is permitted to wander among the books and lay his hands on nay of them at his will and pleasure" (Ranganathan, 1931).

This access is also a fundamental principle of open source software, whose code is by definition freely accessible to examination.

Ranganathan's fifth law, "The Library is a Growing Organism," fits well with the collaborative nature of open source development. Public libraries are built, organized and used by people, not corporations. People in libraries large and small work together to share knowledge with patrons. Why shouldn't librarians be able to work together to share ILS ideas, build improvements, and fix bugs? A library can be as active in FOSS ILS development as it would like, so this information propagation adjusts organically to suit the growth of the library. Contrast this with the proprietary model, in which libraries in isolation from one another report needs one-way to the vendor, and the vendor chooses whether to incorporate this information into its software. The future use of that information is only accessible to future customers who pay for the software. This unidirectional flow of knowledge into a "closed-stack" goes against another of Ranganathan's tenets, "Books are For Use." In 1995, Gorman updated Ranganathan's laws to implore us to "Protect Free Access to Knowledge" and "Use Technology Intelligently to Enhance Service" (Gorman, 1995). These points also support the same openness.

The code of open source software and free access to it is just part of the picture. After all, library patrons will never see that code, and the ILS is just a means to an end. More importantly, the philosophical underpinnings of the FOSS movement can inform and support daily tasks. Steve Jobs of Apple described an inspirational story from his childhood, in which his father wanted the back of a new fence made with as much effort as the front. Even if no one else will ever see the back, the builder will know (Isaacson, 2011). Similarly, librarians' adherence to the principle of open access to information has a ripple effect that goes well beyond the checkout of an informational resource. Patrons do not know the ethical, moral and technical reasons why librarians do what they do, yet patrons gain from the knowledge transferred. Rubin (2010) points out:

> Certainly, any movement that welcomes open access to critical technical information and that, in turn, could lead to significant progress for all rather than serving proprietary interests, is consonant with librarianship's values. In fact, libraries have significant potential to employ open source systems, especially given the high costs of online systems purchased from traditional vendors. (pp. 340–341)

Unpaid and unfettered access to knowledge is a fundamental tenet of librarianship. Similarly, unpaid and unfettered access to software is a fundamental tenet of the open source movement. Libraries exist to provide information and the tools to use it. Software is not only a form of information, but also a tool used to deliver it. Now that adequate free alternatives exist, spending part of a limited budget on a proprietary ILS undermines the very principles of librarianship. As stated in ALA's "Economic Barriers to Information Access: An Interpretation of the Library Bill of Rights," any barrier to information access goes against the very nature of librarianship (American Library Association, 1993). If an open source ILS can provide an equal level of patron access to that provided by a proprietary ILS, the open source choice is the clear path. Money is better spent elsewhere. Removing profit from the equation as much as possible increases efficiency.

FOSS ILSs also strengthen the library's authority as an independent information source. By removing a significant financial force from the operational picture, libraries

can more easily uphold principles of independence and liberty of opinion. Open source software furthers goals set by ALA in 2007, which identified FOSS as one way to foster media diversity and to counteract media consolidation:

> FOSS is developed and maintained by a community of developers that crosses various communities and national boundaries rather than a single corporation. As such, FOSS has openness and the concept of access to information embedded in its structure and design… Free access to information is inherent in these technologies. (American Library Association, 2007, p. 14)

And to hammer home this point, immediately following the publication of these guidelines, the consolidation of the proprietary ILS business mirrored that of mass media. Fewer choices mean less diversity for the people and more profit extracted from libraries.

On a managerial level, the people working in libraries and the open source community are well suited to collaborate. Common traits found in successful open source development communities are altruism, perseverance and clear assignment of responsibility (Baytiyeh & Pfaffman, 2010; Midha & Palvia, 2011; Stürmer, 2005). One might reasonably argue that librarians are more likely to be altruistic and perseverant by nature. They are clearly obsessive about sharing information. What could be more altruistic than a career spent giving away life-changing information? Clear assignment of responsibility in FOSS development means that important roles, such as responsibility for a particular feature, or for documentation, must be appropriately assigned. Hierarchical organization is clearly a fundamental aspect of library science. This confluence of traits predicts a good working match between LIS professionals and open source developers. These two communities are in attitudinal alignment. They share common approaches, goals, and values. That is a strong foundation to build upon.

The alignment of these two groups will benefit libraries large and small. Library-derived improvements to a proprietary system (through bug reports and feature requests) only benefit the software company and, indirectly, later paying customers. In contrast, library-derived improvements to a FOSS ILS benefit all subsequent users of the system, regardless of their size. Input from small, one-branch libraries to the code or documentation will be applicable to larger libraries. Investments by large libraries and grants will trickle down to small libraries. Rather than hoarding improvements, it is in the community's best interest to share them. This is a completely different paradigm from that of proprietary ILSs. This elimination of developmental redundancy creates an additional cost savings. And as shown earlier, once the initial conversion and installation period is completed, ongoing upgrades will come at significant savings when compared to proprietary systems. While the up-front costs may be similar, the long-term savings will grow for many reasons.

In addition, there is the indisputable benefit of fundamental rights. People have the right to access information, and libraries have the mandate to enable that access. To that end, we must question the relationship with proprietary software. Should libraries continue to be subject to external change, or should they themselves become empowered by self-driven growth and learning? Just as information literacy instructs patrons to take charge of their knowledge growth, so should independence through FOSS spur libraries to grow. This virtuous cycle of mutually beneficial growth can only benefit society.

There is a philosophical appropriateness to libraries sharing with other libraries what they have learned, developed and organized. After all, software is just another type of information, and libraries deserve to learn and grow just as patrons do. Strengthening the community of libraries is essential to ensuring the ability to strengthen the minds of patrons everywhere. That is a clear, long-term benefit that will not appear on any budget spreadsheet.

A Proposal: Buy Back America's Libraries

A proposal is now offered, based upon these summary points from this report:

- Conversion to a FOSS ILS has been estimated to be equal to or lower in cost than one year of an equivalent proprietary ILS.
- After the conversion, that ILS costs $0 per year, but does require ongoing support and hosting costs, totaling significantly less than a proprietary ILS.
- In one small library's example, switching to a SaaS hosted FOSS ILS cut annual costs from $60,000 to $7,000 with satisfactory results.
- The San Francisco Public Library system spends $254,000 every year to rent a proprietary ILS.
- It cost the "Empowered by Open Source" grantees about $333,000 per year ($1,000,000 over three years) to update a FOSS ILS to work for the largest public systems in the U.S.
- That ILS is now free to all libraries.
- There are more than 9,000 public libraries in the United States using an ILS.
- About 86% of those public libraries use proprietary ILSs, and 14% use FOSS ILSs.
- This approximates to 7,740 libraries spending more than is necessary.

This data inspires a proposal: A tiny fraction of U.S. public libraries' buying power could be channeled for just two years into a national effort to "Buy Back America's Libraries." If a library is planning to switch ILSs anyway it could join the effort, and switch to a FOSS ILS. If it cannot afford to take a leading development role, it can just switch to the latest version of a FOSS ILS. After two years, hundreds of libraries will have saved considerable amounts of public money. If only a fraction of that money saved would be put back into improving FOSS ILSs, the gap between FOSS ILSs and proprietary ILSs would close. This coordinated effort could further accelerate the development of advanced features, and boost the adoption rate. These libraries will have joined together to return ownership of the keystone of our public information infrastructure to the people. The effort to Buy Back America's Libraries (BBAL) has clear long-term advantages.

BBAL could begin with a simple informational campaign by national library organizations such as the ALA to educate library professionals about how open source software works. It is a different model, which takes time to understand. A central website could offer an independent clearinghouse of general information and tips. The next phase could entail a survey of libraries that are already considering an ILS change. Those libraries that choose to switch to a FOSS ILS during the two-year period could qualify for conversion funding, and be spotlighted in national press releases.

BBAL could be funded by applying for grants from organizations such as the IMLS. The IMLS in particular has funded many previous efforts to empower libraries, and has specifically funded FOSS ILS development. BBAL could face resistance from the companies that sell proprietary systems and support. It would also be important to avoid any conflict of interest, such as sponsorship from open source support companies.

Conclusion

This examination has made a strong case for FOSS ILSs by showing clear financial, functional, and operational benefits. Examples of recent successful implementations, and sharply increasing FOSS ILS adoption further support this argument. The trend is clear: more libraries are switching to a FOSS ILS, with 14% using one as of 2012. In addition, the philosophical exploration found a very complementary fit with the ethos of librarianship.

A transformative change is underway. It is time to Buy Back America's Libraries. A library that chooses the FOSS path will see that progress, like learning, is not easy and never stops. But certain truths will always remain. From Ranganathan's Laws, to the ALA's Library Bill of Rights, to open source software, information freedom has come in different forms but will always be a core value of librarianship.

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