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***Second Life* Librarianship and the Gendered Work of Care in Technology**

SCOUT CALVERT

Of the persistent images of librarians, one in particular caricatures them as stubbornly refusing to adopt new information technologies. From outside the field of library and information science, this perception is unsurprising, given the pop-cultural image of the librarian as a joyless and sexless spinster, hell-bent on protecting books from the hands of the unwashed—the literally heathen—patron. From within the field, though, the stereotype smarts all the more because the visage of the technophobic librarian appears to be empirically unfounded, and it would seem, therefore, counterproductive for those working within the discipline to perpetuate this view. As I will argue, this figure relies on imprecise and ahistorical definitions of technology; implies a prescription for early adoption without providing a warrant or a standard; and imposes a stance that robs us of analytical tools suitable for a fine-grained account of technology in library and information science. Hence, the scapegoating of the tropic technophobic librarian elides the crucial socio-technical contexts in which librarians adopt, adapt, innovate, and translate a range of existing and emerging technologies. The caricature relies largely on an unexamined cultural context in which technical and technological work done by women goes unseen.

Gendered Bodies in Library Work

The figure of the technophobic librarian has become a commonplace in library science literature, assumed without examination. While we can surely point, retrospectively and selectively, to now-embarrassing moments in library history when individual librarians expressed outright technophobia, we can also identify more qualified opposition to uncritical integration of computing technologies. Conscientious opposition aside, technophobic statements in themselves are not sufficient warrant for a negative perception from within LIS, especially without evidence that the rate of development of computing technologies for library science applications was actually affected by, let alone systematically or causally linked to, such sentiments.

Accounts from science and technology studies show that development, adoption, and adaptation of various technologies is a complicated, multi-layered process in which the most satisfactory outcome is far from guaranteed (King, Cowan, MacKenzie and Wajcman). Future studies of LIS technology drawn on these insights may yet show that technologically cautious librarians were partly responsible for the development of technologies that work for LIS contexts. Indeed, LIS seems to be anecdotally selective in the story it tells itself about technology. Given a long view of the history of library automation, it is difficult to sort out the basis for the commonplace that the discipline was late to the game of adopting new technologies. Famous moments of technological naysaying notwithstanding, instances of librarians joyfully converting their card catalogues to scratch paper and using card catalogue drawers as OPAC stands after completing their retrospective conversions, and the work of librarians in early networking efforts, when technological infrastructures were undeveloped and unproven, seem to have faded in the short memories of the technophiles who are eager to separate themselves from the vision of technologically obsolete library science.

The unexamined prescription to be an “early adopter” leaves important analytical questions unanswered. In resonance with Donna Haraway, I trace “what gets to count as technology, for whom and when, and how much it costs to produce ‘technology’ at a particular moment in history for a particular group of people.”¹ When we ask what is at stake in the definitions of technology that seem to be on offer, we see that the technophilic orientation favoured by the negative portrayal of the slow-adopter librarian forecloses both the opportunities and the courage to develop an analysis of technology that is LIS-centric. Specifically, the predictable response of LIS closes the door on multi-disciplinary, question-based approaches from the history of technology, the sociology of science, feminist theory, and science and technology studies. These approaches might help us evaluate, develop, and modify a variety of technologies for LIS core problems, as well as help us account for what technologies actually do in and for LIS.

Perhaps since the beginning of modern library history, librarians have been concerned with establishing a respectable identity, one which expressed the expertise and intellect needed to do library work well. Melvil Dewey made professionalism his priority, founding, with others, the American Library Association and writing frequently about the

¹ In the cult classic film *Donna Haraway Reads the National Geographics of Primates*, Haraway asks “What gets to count as nature, for whom and when, and how much it costs to produce nature at a particular moment in history for a particular group of people?” (Haraway, *Donna*) I leave aside for now an urgently needed analysis of how capital incites and continually renews desires for high tech gadgetry, particularly in the coveted 18-35 year old male demographic, but not at all limited to it.

professional qualities of librarians. He and other early figures in American librarianship focused on identifying the skills and habits needed, and made the case that special training was necessary. At different points in LIS history, different qualities were identified as distinguishing LIS as a field. In Dewey's time, the first step was to mark librarianship as requiring specialized study. After a flirtation with "library economy," the field committed to "library science" in the early 1930s. Even now, the discipline wrestles with the burden of marking itself a science, often with little result. Vulnerable to technological deskilling, the turn in library science at the end of the 20th century was for librarianship to ally itself with information science, riding on the coattails of an established quantitative science. Library schools began to re-christen themselves, incorporating "information" with "science" into the name "library and information science," and mobilizing important semiotics: that of science and that of technology, both masculinized and lucrative disciplines. As Roma Harris contends, "the pressures on librarians to rid themselves of their [marked] occupational labels are intense" (Harris 34).

Library and information science's struggle with feminization and its largely female professional demographic have been around just as long as modern librarianship. A cultural anxiety over the spinster librarian has been at play ever since. Just as essays that troubled the discipline's status as a science proliferated through the 20th century, so too have discourses worried about the stereotypes of librarians and the status of the profession.² The purpose of this essay is not to bemoan these stereotypes, but to inspect a particular variety of response to them. I will describe a very different antidote, one that holds out hope for another path for LIS, not only to the esteem of a scientific discipline, but to the imaginative possibilities of a scientific one. As Haraway argues, "Science has been utopian and visionary from the start; that is one reason why 'we' need it (Haraway, *Situated* 192). The task here is not to refute stereotypes by asserting the opposite, or to counteract them in a way that agrees both that the stereotype is grounded in fact and that it describes a negative set of qualities and behaviours. Nor is it to reclaim and recover the positive aspects that presumably underlie the stereotypes. Rather, I am interested in species of responses which reflect on women's specific embodiment, and which in turn reify technological assumptions about feminization. I ask what responses to stereotypes about librarians can tell us about LIS's self-concept in regard to female embodiment, technology, and the kind of labour that is most central, at present, to LIS narratives about its "value" to society: customer service. The goal of this essay is to offer some

² Rather than recap the enormous literature, I point the reader to the tremendous work of the various compilers of *On Account of Sex* (Goetsch and Watstein, Kruger and Larson, Kruger, McCook and Phenix, Phenix and McCook) as well as to Kneale. Additionally, *American Libraries* features a regular column titled "Public Perception: How the World Sees Us," which gathers mentions of libraries and librarians in the media.

considerations for future research on library technology work by tracking librarians' particular embodiment through material and virtual worlds, in search of sources of prestige due a technologically skilled profession. Using *Second Life* librarianship as a case study, I will discuss and develop several crucial analytical tools from sociology, feminist theory, and science and technology studies: invisible work, articulation work, emotional labour, technological black-boxing and socio-technical lag.

Before moving to my analysis, let me foreground several assumptions about the profession of librarianship—public librarianship, perhaps most especially, but most versions of librarianship generally. The first assumption, one widely shared and acknowledged, is that the field is feminized—that is, like teaching and childcare, librarianship in our society is, in various ways presumed to be the province of women, and is accorded lower status and pay, no matter the sex of the actual librarian.³ My second assumption is that the field lives in that liminal space where technology operates but is not seen. That is, as I think the critics of the technophobic librarian will agree, librarianship involves multiple layers of technology for organizing, storing, and accessing knowledge and managing circulation, but for various reasons, the technological aspects of library work don't register. These two assumptions are hardly contentious, even if the details that support these assumptions require further explanation. And so, I base my third assumption on the previous two: that making the technological aspects of library work visible would seem in some ways to be the answer to questions of status and prestige that librarianship has wrestled with over the last hundred years. Here, too, I think critics will agree in principle. But strategy is no small matter. How we “surface invisible work,” one of Susan Leigh Star's “tricks of the

³ In this paper, I use sex to refer to the physicality of the body, and gender to refer to social conventions, including the division of labour, and the practices of identity and expression related to a person's experience of her or his sexedness in this social and historical configuration. A more nuanced reckoning both refuses the biological determinism of sex categories with their implicit reference to “nature” and attendant dimorphism and essentialism, as well as an uncomplicated split between sex and gender, and an implicit divide between nature and culture. This paper investigates, in part, the gendering of a profession, librarianship, and hence the cultural and professional responses to this gendering. In the space of the arguments this paper makes, I am less interested in unwinding the nature-cultural production of sex and gender than I am in illuminating an instance in which librarianship's fraught relationship to female bodies tells us something about librarianship. Thus, it should be sufficient for purposes of my arguments, to remind readers first, that I use sex to refer to bodies that are usually identified as male or female, and gender to refer to qualities of masculinity and femininity expressed by people through work, social roles, interpersonal behavior, comportment, and a host of other activities and processes, and second, that sex and gender are not co-extensive. Librarianship and technology have also been *gendered* in particular ways that can tell us something about the field's place in our culture and its relationship to its core functions.

trade” for doing ethnographies of infrastructure (Star 38) matters deeply to the future and status of LIS.

Brief Lessons from Science and Technology Studies

Why, then, is library technological work persistently invisible? Why do LIS theorists and practitioners feel they must continuously make the case for technology? And can we really blame technophobic librarians? Here, we can appeal to accounts from science and technology studies to understand the emergence and diffusion of new technologies into scientific and social practice. Peter Gallison describes “trading zones” in which developments in physics are winched along, asynchronously, by specialists in “trading zones,” as “intercalated” series of paradigm shifts occur in one subfield and then cascade to other subfields (Gallison). Trading zones are localized opportunities for exchange, in which trading partners exchange information, but without sharing the same meanings and uses of that information. Trading zones like these would be fewer and more distant from technological centres for a field like LIS that is composed primarily of practitioners, usually in financially delimited circumstances. Crucially, one aspect elided in the canard of the technophobic librarian is the techno-cultural context of the early days of micro-computing. H. M. Collins’ study of the development of laser technology describes the kinds of communicative networks needed for institutions to build and successfully operate a laser; the kinds of tacit knowledge required for developing laser technology necessitated a direct, human connection for sharing techniques that were not amenable to scientific communication (Collins). When computers no longer required warehouse-sized rooms to store them, and when processing time no longer had to be scheduled, computers might have begun to be useful to a non-specialist audience. But even then, computing made sense for the needs of those doing quantitative research; the interpersonal professional networks required for sharing computing knowledge would take time to develop—and a study of this development would need to account for the practice of library science that occurs almost entirely outside of university and laboratory settings. This would make it difficult to support a claim that library scientists missed early opportunities to adopt computing at this stage.

It makes sense, now, looking backwards, that LIS would make heavy use of electronic networks. But would-be historians of LIS technology must avoid taking a teleological approach; just because we have the internet now does not mean that it was meant to be. We need a nuanced history that understands that technological and scientific outcomes are never inevitable, which would quell the temptation to speculate that LIS would be more advanced or more prestigious if

practitioners had found a technological application to adopt earlier (Rheinberger). Things might be different, to be sure, but the quality of that difference is undetermined. Moreover, it is possible that being uncritical cheerleaders for LIS technology jeopardizes the mission of the library by overselling the idea that the internet and computer-based technologies will readily, and without prescient human design, solve of the problems of knowledge production, resource sharing, expert labour, and a multiply diverse service population, which are fundamental library concerns.

Another crucial element is the sociological context of information technology and computing. Sherry Turkle and others have studied gendered aspects of computer science culture since at least the early 1980s, when affordable desktop computing emerged (Turkle, Kramarae). Even now, only 12 percent of undergrad computer science degrees go to women, a drop from 19% in 2001 (Stross). Women in computer science face the same challenges as women in the natural sciences, particularly in the domain of physics. Voluntaristic explanations—those that imagine all of us to act within the same field of agency without social constraint—don't work here. These explanations presume different priorities or capacities on the part of women, as though they were isolated from a society with different expectations and rewards for men and women from the outset.

Librarians' Bodies and Contemporary Librarianship: Deskilling and Customer Service

The gendered division of labour in library science is often naturalized by recourse to sex-linked differences that are presumed to be innate. This view is perhaps best expressed by Melvil Dewey's 1886 claim that women librarians were not entitled to the same salaries as men because, growing up, "the boys have been trading jack knives and developing the business bumps while the girls were absorbed with their dolls" (Dewey 10). Despite the persistence of the gendered caricature of the anti-technology librarian, the stereotype serves as a crucial clue about the importance of the librarian's body. This is especially so, as the profession increasingly emphasizes "customer service" as the core of library work as other aspects of librarianship are deskilled, devalued, and outsourced. Critical judgment, for example, is replaced with a discourse of librarian-as-filter, or library practices-as-filtering-practices, or through labour-saving tools that black-box value-laden and ethics-heavy functions like selection and de-selection, hiding the publishing and reviewing priorities that power the tools. Harris predicted in 1992:

With automation, the field's already low status will decline even further as more and more of the formerly professional tasks are performed by paraprofessionals and clerical workers. At the same time, the few

remaining higher status activities with the field are being renamed. Through this process, librarianship's identity as a low-status, female-intensive occupation can be escaped by those who practice the "new" higher status functions. Thus librarians who wish to claim a status greater than that which librarianship affords them may do so simply by renaming activities that were formerly part of this occupation (Harris 134).

Gendered labour is also at the heart of customer service. Successful customer service requires creating the perception that the person serving genuinely cares that the service is performed to the satisfaction of the customer or client. This management of feeling, or emotional labour, is the subject of Arlie Hochschild's ground-breaking study of flight attendants, and she shows how women are called on to do this work in ways that men are not (Hochschild 178). Work that involves caring for others is typically underpaid, and the skill involved is rendered invisible because it is believed to emanate naturally from women's bodies. Effacing the skill and making caring seem natural is a key component of that care. But, as Hochschild's research shows, women often work under hostile conditions because the expectations for skilful management of feeling are higher when women are providing the service.

This labour of care marks feminized professions like librarianship, irrespective of the sex of the worker. The effort to associate librarianship with technology and its connotations of masculinity and power as an antidote to the negative connotations of feminization is a problematic strategy for accruing status to the profession. In so doing, librarians disavow one pole in a gender binary in favour of the other. Paradoxically, this strategy denies the very embodied qualities that make for successful library practice, and fails to understand that the interpersonal labour that is essential to library science is in fact work, while at the same time affirming the anti-female logic that makes that labour invisible in the first place.

What Susan Leigh Star calls "articulation work" is the labour necessary to make technologies fit together seamlessly. "Information systems . . . may leave gaps in work processes that require real-time adjustments, or *articulation* work, to complete the processes" (Star 385). Rarely do technologies fit together seamlessly out of the box. Rather, interoperation is produced "by means of standards, socket layers, social practices, norms, and individual behaviours that smooth out connections between them" (Edwards 5). Every system is an assemblage, with someone behind the scenes doing the articulation work needed to "smooth out" the connections. In libraries, invisible work of several kinds is necessary to connect patrons with the materials they need.

Librarians spend the bulk of their time doing articulation work between technologies and people especially. As Haraway argues, taking responsibility for our enabling conditions, including our enabling

technologies, which serve as prostheses, is a precondition for objective knowledge production (Haraway, *Situated* 249, note 7). If we think of technologies as significant prostheses, we can see that the work of librarians is primarily work that joins people with enabling technologies. Not only do librarians articulate technologies so they work together more smoothly, they help people adapt technologies for their own individual and collective purposes.

As Katie King argues, when technologies are allowed to remain densely compacted and unanalysed, “work by women is made invisible in such metonymic reduction by definition. Thus ‘technology’—reduced to what women do not do—becomes tautologically ‘male’ as it misrepresents the relational ecology of the worksite and the technical devices and skills employed there” (King 59). The articulation work required of library workers is both technological and affective. Librarians are advised to smile and be friendly; this “emotional style of offering service is part of the service itself” (Hochschild 5). As Sandra Bartky notes, for women whose work is composed of such emotional labour, it defeats the purpose if the effort to sustain this emotional style becomes apparent. The “relentless cheerfulness” produces feelings of alienation and inauthenticity; “under such conditions, the provision of emotional service can be disempowering indeed” (Bartky 104). Although there is satisfaction in the successful handling of another person’s emotions, Bartky warns, “we are ill-advised to settle for a mere feeling of power, however heady and intoxicating it may be, in place of the effective power we have every right to exercise in the world” (116). In Haraway’s analysis:

To be feminized means to be made extremely vulnerable; able to be disassembled, reassembled, exploited as a reserve labour force, seen less as workers than as servers; subjected to time arrangements on and off the paid job that make a mockery of a limited work day; leading to an existence that always borders on being obscene, out of place, and reducible to sex. Deskillling is an old strategy newly applicable to formerly privileged workers (*Situated* 166).

Our Own Worst Enemy: The Problem with Binaries

Before we turn to *Second Life*, let’s look at librarians in “real life.” Outside of *Second Life*, librarians have a fairly standard pop-cultural image. On at least a couple counts, the stereotypical U.S. librarian jibes with statistical reality. Librarians are usually female, and usually older. In the past, that’s been in part a function of the typical age and sex of a person entering library school. Both of these demographic statistics are changing, but are currently still true. And looking through one of librarianship’s professional journals, one could not be faulted for thinking that librarians, in fact, do present on the conservative side of the fashion

spectrum.⁴ When *School Library Journal* printed its January 2007 cover story on *Teen Second Life*, the cover illustration of a fashionable, if perhaps a bit bodacious, librarian avatar, letters to the editor hotly debated notions of modesty, sexuality, femininity, and professionalism (Czarnecki and Gullett, “Crass Cover”). Indeed, *Second Life* offers the chance for librarianship to give itself a makeover by designing attractive virtual emissaries for the profession. As this debate confirms, the gendered ways that librarians act and dress are a big part of the social response to the entire profession. As I’ve shown, these instances of publicly stereotyping librarianship are hardly limited to those on the outside of the field.

A few more brief examples of how librarians discuss the gendered traits of librarians from recent issues of *Library Journal* will help demonstrate that these perceptions within LIS aren’t isolated. In a feature called “How do you manage?” librarians write in with real life scenarios and two library managers offer advice on how to handle them. In one instance, a librarian offered a scenario in which a shrinking budget forces a choice between two librarians: one older, experienced, but not very technologically savvy, and a younger, less experienced but technologically oriented librarian (Rogers). One of the columnists actually had to point out that taking age into account is unprofessional and illegal. Age marks the body; and in our youth-centric culture, age counts against women faster than it does men.

My final example, from a close reading of *The 2003 OCLC Environmental Scan: Pattern Recognition*, illustrates how age, like gender, marks the body. OCLC, the corporate sponsor of the report, it hardly needs mentioning, owns the Dewey Decimal Classification system, which is the mostly widely used in the world; it is also the intermediary for most US ILL requests; and it also owns the largest database of cataloguing data. The report refers to aging, tired, testy, and domestic librarians who are unwilling to use new technologies or offer enthusiastic library service (De Rosa *et al.* ix, 5, 74). These old and domestic librarians are contrasted with young, innovative, and technophilic librarians (De Rosa *et al.* 72-74). Here, the librarian is constructed as female, domestic, and uptight:

Librarian yearns to see more of Information Consumer who is apathetic or indifferent to the wishes of Librarian. Librarian tries to be more accommodating by *renovating the Home Page to be more attractive* to Information Consumer who finds the changes pleasant enough. But while Librarian was busy *sprucing up the Home Page*—moving things from here to there and recovering the worn upholstery—Information

⁴ In fairness, this is probably more a function of the corporate professional contexts in which high-profile library and information scientists work than an indicator of the private lives they lead.

Consumer has been hanging out at the Information Mall. Now Information Consumer is critical of what seems to be *old-fashioned, fussy—and boring—decorating at the Home Page* (De Rosa *et al.* 5; emphasis added).

In this vision, librarians are feminized, domestic, old, and technologically limited—even phobic. Later in the report, OCLC makes clear what it thinks is the appropriate alternative to this dowdy librarian. In most ways, OCLC’s alternative is predictably the opposite of their caricatured traditional librarian: young, technophilic, not domestic, and certainly not anti-capitalist. But despite those binary oppositions, OCLC’s alternative librarian is still female. This is telling. And it is in that cultural milieu that I think it is necessary to read librarians’ forays into *Second Life*.

What these examples illustrate is how LIS understandings of gender and technology traffic between binaries, which function as co-constitutive categories. These binary categories are universal and special cases, unmarked and marked classes, identified by cultural theorists, feminists, and deconstructionists; binary categories are particularly theorized as one of many analytical threads in Haraway, who reminds us that categories are relationships.⁵ So long as it is the analytical practice of library and information science to react to stereotypes in ways that treat these binaries as real, we will remain unable to make headway about the status of librarianship in an engaged analysis of embodiment, technology, and the gendered division of labour.

Keeping Track of the Body: Librarians in *Second Life*

These assumptions set up, I now turn to the phenomenon of librarians in *Second Life*. For those who are unfamiliar with *Second Life*, it is a virtual world, not unlike a massive, multiplayer, online role-playing game, in which participants create “avatars” or representations of themselves or their in-world characters. But unlike other online worlds like *EverQuest* and *World of Warcraft*, *Second Life* is not a game. It is a virtual social space in which so-called “residents” can interact with each other and build and exchange virtual property. Because it is not as strictly rule or goal-bound as MMORPGs, *Second Life* enables residents to play

⁵ Consider the binaries: Universal/particular; Mind/body; Science/society; Objective/subjective; Technical/political; Ideal/material; Rational/emotional; Male/female; Pure/polluted; Unmarked/marked; Self/other; Active/passive; Visible/invisible; Seeing/seen. This list is drawn widely from Haraway, especially (*Donna* and *ModestWitness*) and Anzaldúa but indebted to many other poststructuralist and deconstructionist-minded feminists across the disciplines of literary criticism, film theory, philosophy, and science. For an elaboration of the ways that the unmarked column is both visible and also able to actively see without being seen or gazed upon, see Anzaldúa and Mulvey.

out fantasy personas and build dream spaces, within of course the limits of the often clunky arrangements of technologies that make *Second Life* possible at all: internet connections, server networks, graphics cards, CPUs, software, and the modeling capabilities that render the computer generated imagery that is the visual world of *Second Life*. When these technologies don't work, residents experience "lag," the virtual environment may not "rez" (resolve) quickly or completely, and avatars may appear "ruthed" (blank, while "skins" load). But lag, as King tells us about technological access, is more complicated than just having the right technologies. It also involves layers of other social and technical infrastructures that shape the possibilities of virtual worlds (King 39; see also Star).

Over the last several years, librarians have taken up *Second Life* on its offer of a space for building fantasy worlds and personas. Unsurprisingly, librarians have been amongst *Second Life* users since it went public in 2003. By mid-2006, though, librarians from different physical locations had banded together to try to give libraries a virtual presence in *Second Life*. In *Second Life*, large pieces of virtual real estate are called islands. The library presence that began as an island soon became an archipelago. The chain included Info Islands I and II, Info Island in Teen *Second Life*, and Cybrary Island, the virtual home to several physical libraries. Interest in developing library services in *Second Life* resulted in the expansion of virtual spaces to include Edu Island, Caledon Library, Healthinfo Island, Imagination Island, and ALA Arts Island. However, these spaces have contracted and now are condensed into one library, the Community Virtual Library, which is located on Imagination Island (*Community Virtual Library*).

Although I've visited *Second Life* sporadically since the summer of 2006, over the course of the last several years I've spent time in *Second Life*, specifically on the Info Islands, to try to meet people and see what a virtual library might be like. But I found Info Island empty for most of my first visits. My subsequent visits, in which I've enjoyed pleasant conversations with *Second Life* librarians, have still shown very few people on the island at those times; by few, I do mean three. These conversations with librarians bore out a hunch: most of the questions they answer during their time in *Second Life* are about, well, *Second Life*. Though this may be changing, a complex tutorial on using *Second Life*, exhibited on Info Island in fall, 2009, shows that the efforts of *Second Life* librarians are still largely about making the case for this technology.

With this background set up, I now want to play out my arguments about librarians, technology, embodiment, and culture. A place like *Second Life*, in which participants can, at least in theory, develop avatars that aren't hinged to the (biological) confines of embodiment, including size, shape, appearance, and other physical manifestations of self; and in

which participants can build structures, machines, and objects in virtual space, would ostensibly be a good place to rework the social preconceptions under which librarians work. Inspired by Burning Man, an annual art, music, and performance festival in the Black Rock Desert of Nevada, *Second Life* founder Philip Rosedale believed that “If we create the world from the bottom up, it can be reimagined” (Maney).

To understand how social categories happen in *Second Life*, we can draw on another of Star’s “tricks of the trade” and identify the master narratives at work in the technology (Star 384). First, at the time of this writing, there are eleven avatars in several basic looks, in versions that *Second Life* refers to as “male” and “female.” Six of these offerings are labelled “female,” and all save three appear to be white, insofar as an avatar can have racial characteristics. These avatars are labelled rocker, student, goth, city, party, and designer. (The female rocker has no male counterpart.) At *Second Life*’s inception there were six basic styles of avatars, including a furry avatar, each available in “male” and “female” versions for a total of twelve. In June, 2008, Linden Labs retired these, and replaced them with another set of twelve figures: a casual, mainstream avatar in three white options, one man and two women; a professionally dressed avatar that appeared to be a black man in suit coat and tie. The only apparent black woman in that set was attired as a college hipster in a denim skirt and polka-dotted leggings. The remaining avatars were coded white, though a couple of them could generously be read as racially ambiguous.

Once in-world, residents will find several dozen more avatars available in the control panel, including human, vampire, animal, robot, and vehicle options. The human and vampire options share the representation problems with the default avatars available at sign up. However, although the racial default for *Second Life* seems to be white, several of the visual characteristics we associate with race are tweakable in the *Second Life* avatar appearance menu. Despite the discouraging default profiles, these characteristics can readily be changed within *Second Life*, so that a continuum of racially diverse avatars is readily possible in-world. These features are not literally marked as racial characteristics in the appearance control panel, except for a hair texture that is labelled, somewhat awkwardly, African American.

Less easy is a continuum of gender diversity. While the appearance menu uses sliding ratios to allow appearance to be selected on a wide array of shape and colour features, *Second Life* originally had a single toggle switch for gender. I am using gender advisedly here; I am being perhaps orthodox for insisting that the technologies of self-expression we use to refer to our identities as sexed persons count as gender. Without a body to ground the avatar, using “sex” to refer to avatars is fraught. Yet *Second Life* used the binary sex categories “male” and “female” on this

toggle switch. And depending on what was toggled, a different set of appearance features was available for changing an avatar's look. So, although *Second Life* is open to the notion of continuum for features that we might, in real life, term "race," gender and sex are denied a continuum. A racially ambiguous character is possible in *Second Life* without the use of custom code called "skins"; an ambiguously gendered character in *Second Life* is not possible without the use of custom skins. Because residents must choose "male" or "female" at the outset, this virtual world rematerializes and reifies the social relations that accompany assumed gender binaries: sex/gender match, gender normativity, and heterosexuality. (That toggle has since been replaced with a button featuring the well-known icons of a man and a woman used on restroom doors.)

In building *Second Life*'s infrastructure, Rosedale took for granted the structuring categories of our social world, raising the question of what it means to "reimagine" in the first place. Users who try to reconfigure these rigid in-world infrastructures will experience what I call "sociotechnical lag," because the technical arrangements embed particular social functions that are at odds with the reality of difference in users bodies and identities. Residents who try to use SL to reimagine their gendered worlds may instead experience what Star and Geoffrey Bowker call "torque" (Bowker 27) as resident biographies and technological trajectories twist against each other. These infrastructural assumptions in turn speak to the questions of gender and technology that are so important to how we understand librarians, and how librarians are attempting to rework their professional reputations by reworking their pop-cultural reputations.

Second Life: Remaindered Bodies and Socio-Technical Lag

If "lag" is the result of a failure of the technological assemblages needed to move seamlessly through *Second Life*, it is also an apt word for the failure of technical arrangements to meet social needs, because the technologies are presumed to, in King's words, "interact with people and culture in global, undifferentiated ways" (King 35). In my conversations in *Second Life*, librarians were unruffled by the gender rigidity built into the world, but were still grappling with what kinds of truths avatars were supposed to tell about their users' bodies. In February 2008, several librarians hosted an in-world panel discussion about gender in *Second Life*. Some participants took for granted that their avatars were supposed to be their virtual representatives in-world, and that avatars should thus "honestly" represent the users; that is, the gender presentation of each avatar should match the sex of the user whom it represents, even if other aspects, including whether the avatar appears human, do not. The virtual

panel discussion made some headway in trying to sort out some basic language that might enable a more nuanced conversation about sex and gender binarism, in both real life librarianship and *Second Life*. Still, the chat showed that most of the participants believed in a tight link between sex and gender, and a deep sense that playing out fantasies of attractive, young, slim, ideally gendered bodies was an unassailable benefit of *Second Life*:

KT: Does gender matter here in a virtual world?

DH: As long as you're honest about it, no.

DH: Honesty is what counts with me, not someone's sex.

DH: I object to being hit on by someone hiding their true sex.

CW: If I am dancing with a female avatar, I prefer that the person behind them is female.

DH: All our RL selves are behind who or whatever we choose to be here.

CW: To me the avatar and the person are to a large extent the same.

When I asked librarians who regularly volunteered on the Info Archipelago if they thought their avatars needed to present a "professional" look on their shifts, they agreed that was the case. They felt that avatar appearance was deeply linked to "credibility as a professional with answers."

DH: Most of us do try to present a professional demeanour, yes.

DH: Many come as whatever they choose.

LT: We are trained to interview, think, research, find information. It is our best attributes in RL that enhance our SL.

DH: But I think your appearance goes to validating your credibility here.

LM: Yeah, appearance is a big thing.

KT: I agree. Appearance=skill and age.

DH: Credibility as a professional with answers.

MQ: [A furry] Off the record, I do get treated sub-human in SL sometimes.

The appearance of their avatars as both young and "ideally" gendered bespoke, in their view, skill and professionalism. And several of them mentioned that they are much older than their avatars appear to be.

LM: And we're all OLD!

RL: I think of gender as I think of age. I choose to be young here. I am free to express myself as a young woman because it is who I feel myself to be. It is among the many varied choices I can make about how to present myself.

As we saw in the examples from *The Scan* and Library Journal, age marks the body, and is an important factor in understanding how gender is to be understood in both real life and *Second Life*. The strategy of contemporary librarianship is to try to work the privileged column of binaries, those that afford status and recognition. And this strategy involves explicitly rejecting negative stereotypes of the librarian,

including, and perhaps especially, feminized middle-agedness and the domesticity that is assumed to involve little skill or use of technology. Of course, science and technology scholars, including Haraway, King, and Star, show us that we constantly operate in layers of technologies, articulating new and old together. And by default, binaries categories serve to efface and render invisible technological labour when women do it.

In this light, we see that by rallying the trope of the technophobic librarian, LIS chooses to reject female embodiment when it is actually at its most technologically expert—that is, librarianship rejects the gendered embodiment of experienced, in other words, older, librarians who have mastered several succeeding waves of information technologies. Importantly, librarianship has declined to reject female bodies altogether. Rather, in choosing to negate the kind of technological work older librarians do, what LIS discourse leaves are embodied librarians labouring on the vulnerable right-hand column. This negation paradoxically leaves only librarianship's affective labour, the skilled work that is necessary for effective library service.

Recalling Dewey's statement about boys and their jack knives and girls and their dolls, how might we read feminized labour? The girls' "absorption with their dolls" might have been a gendered mode for "developing the business bumps" for successful delivery of LIS services. This kind of work is labour, as Hochschild shows. It does not issue effortlessly from women's bodies any more than "trading jack knives" is effortless for men or anyone. But the short of it is that reducing the technological expertise necessary for librarianship to the latest in silicon-based technologies ironically leaves, in its remainder, not only the marked and embodied qualities that reduce librarianship to a low status and low pay pink collar profession, but also those that are requisite to LIS work translating knowledge and technologies between expert and lay users. Librarianship's contemporary emphasis on customer service bespeaks the kind of commodified affective labour involved in bringing patrons into the library and making them feel at home with its resources.

If we are to deconstruct, rather than essentialize, emotional labour, how should we read librarianship's forays into Second Life? Second Life naturalizes a sex and gender dimorphism that is more extreme than in real life, with new forms of sociotechnical lag, while at the same time holding out the possibility for reworking and collapsing these categories, even if we have to start over from the ground up. This would be a good place for librarianship to start, not by picking the most favoured column and embracing it, or rejecting that column, instead "reclaiming" the disfavoured pole without critical analysis of either. Rather, analytical and deconstructive moves are necessary. Affective labour in librarianship is literally vital to the articulation of knowledge technologies, but must be

done without effacing the expertise that works through this affective labour. This means ceasing to reify femininity as uniquely suited for the labour of care; this in turn requires making women's technological labour visible. This is not only a political question, it is an empirical one.

Although Second Life librarianship has not been very good about interrogating the founding categories of either women's labour or Second Life, it is nevertheless encouraging that in some ways, an avatar is supposed to have some ground in the reference to an actual body, whom the avatar represents. Perhaps Second Life ought not to be drawn in contrast to something we call, by convention, "real life." The recognition that virtual technologies for the exploration of identity need not be understood as bifurcating "real" and "artificial," like "mind" and "body," seems like a very promising starting place for reworking gender and technology in librarianship. But the key here is to surface invisible work and acknowledge the technological expertise already present in aging, embodied, female librarians.

What this analysis should demonstrate is that the embodied experience of librarians makes a difference. That embodiment is necessary to the articulation work of librarians that articulates both people and technology together, smoothing out the connections between them. A majority of librarians' work is delivering technologically based services to lay people, and gendered teaching roles play a part in the efficacy of this labour. Although youth services librarians I observed over fifteen years of library work downplay their computer know-how in the face of the technologies used by "kids these days," they are responsible for translating a variety of computer and paper technologies in age appropriate ways to meet information literacy needs of the next generation. Affective labour is necessary to that translation. It is also implicit, and sometimes explicit in calls for librarians to offer good "customer service," whether in adult reference, youth services, or an academic or special library. What qualifies "customer service" as good but some sense that the person you've gone to for assistance actually cares—or is at least willing to appear to care—that you find what it is that you are looking for?

The work of care in technology is not limited to those on a public desk. In my work with cataloguers over the course of a season, I watched very adept and skilled librarians articulate different database applications and library software modules together. They were extremely technologically agile, and this involved an expert habitus that made old and new technologies work together. Not only were these librarians—mostly women and all over 50—highly savvy, they also were deeply concerned about how they articulated silicon based technologies and category systems together so that actual human beings, lay users, could find what they were looking for. Not only do these librarians articulate

technologies together, their labour of care articulates people with the technologies for knowledge production.

The commonplace of the technophobic librarian is counterproductive. It prohibits generative accounts of technologies appropriate to the institution that is most crucial to self-development and lifelong learning across all ages and sectors of society. It also effaces the kinds of technological and affective skills that are necessary and valuable to the tasks of LIS, buying into the very logic that undermines the status of the field in the first place. Feminist theory and science and technology studies offer deconstructive moves that destabilize and collapse binary categories, as well as analytical tools for nuanced understandings of how succeeding generations of technologies are layered and reconciled with each other. Rather than negate the disfavoured categories in favour of the privileged ones or embrace and reclaim the tarnished pole, collapsing these categories with keen attention to practice and the variety of old and new technologies, silicon-based or otherwise, is what is needed, both for the job satisfaction of practitioners but also to enable LIS to move forward in its work of enabling knowledge production for ordinary people. Refusing the ready-to-hand scapegoat of the technophobic librarian, library techno-scientists will have access to tools from allied inter-disciplines for fine-grained accounts of library and information technology.

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