

**ALL INDEXING IS WRONG; SOME INDEXING IS USEFUL:
SOCIAL TAGGING IN LIBRARIES**

by

BAHARAK YOUSEFI

**B.A. (Honours), Simon Fraser University, 1998
M.A., Simon Fraser University, 2003**

**THESIS SUBMITTED IN PARTIAL FULLFILMENT OF
THE REQUIREMENTS FOR THE DEGREE OF**

MASTER OF LIBRARY AND INFORMATION STUDIES

in

THE FACULTY OF GRADUATE STUDIES

THE UNIVERSITY OF BRITISH COLUMBIA

August 2007

© Baharak Yousefi, 2007

Abstract

Social tagging, the activity and process by which users add descriptive tags to shared, digital content, is a socio-politically significant form of indexing. Adding social software to library OPACs challenges the legitimacy of traditional indexing languages and can enhance the information literacy – the ability to seek, find, and evaluate information – of library patrons, rendering social tagging a matter of import in the pursuit of critical librarianship. This thesis uses Sidney Tarrow's (1994) four basic properties of social movements – collective challenge, common purpose, solidarity, and sustaining collective action – to present social tagging as a social movement. It argues in favour of adopting an anarchist, and specifically Kropotkinist, paradigm for the future study, development, and implementation of social tagging. Most significantly, social tagging is carried out from the bottom upwards by means of patron contributions and not from the top downwards by means of authoritative rule. By choosing an anarchist paradigm, librarians and LIS scholars can make certain that social tagging continues to be maintained, developed, and studied as an anarchist social movement.

Table of Contents

Abstract.....	ii
Table of Contents.....	iii
List of Figures.....	iv
Acknowledgements.....	v
CHAPTER I On Critical Librarianship: An Introduction.....	1
CHAPTER II Tag, Keyword, Graffito, Indexing Term, Metadata, Literature Review.....	7
Introduction.....	7
Social Tagging: Definitions and Advantages.....	8
Social Tagging: A Critical Analysis.....	14
The Socio-political Utility of Social Tagging.....	20
CHAPTER III The New Order of Social Tagging.....	24
The Radicalization of Indexing.....	24
Social Tagging as a Social Movement.....	34
Conclusion.....	49
CHAPTER IV The Structure of an Anarchist Paradigm.....	51
Introduction.....	51
Paradigm – Kuhnian.....	52
Paradigm – Anarchist – Kropotkinist.....	58
Conclusion.....	74
CHAPTER V Now We Can Do Big Things for Love: An Epilogue.....	76
Bibliography.....	81

List of Figures

Figure 1.1	Social Tagging on Library OPACs as a Type of Indexing and a Social Movement.....	5
Figure 2.1	LibraryThing Tag Cloud.....	9

Acknowledgements

I would like to express my deepest gratitude to the members of my supervisory committee for their patient guidance. I am indebted to Dr. Joseph Tennis, humbled by the anarchists and librarians in my life, and grateful for my lifetime membership on LibraryThing.

Chapter One

On Critical Librarianship: An Introduction

The world has not to be put in order: the world is order incarnate. It is for us to put ourselves in unison with this order, to know what is the world order in contradistinction to the wishful-thinking orders which we seek to impose on one another. The power which we long to possess, in order to establish the good, the true and the beautiful, would prove to be, if we could have it, but the means of destroying one another.

- Henry Miller (1939, 33)

Critical librarianship refers to the position of being cognizant and involved in the social and political responsibilities inherent within the profession. Librarians help patrons find information. Seeking, finding, and evaluating information – information literacy – is a socio-political skill because access to information enables socio-political organization (Andersen, 2006). Knowledge organization – the lifeblood of librarianship – and individuals' ability to organize are intimately related. Librarianship is, therefore, not a socio-politically neutral profession (Samek, 1998). As part of their core set of values, The Canadian Library Association states: "effective advocacy is based upon understanding the social, cultural, political and historical contexts in which libraries and information services function" (CLA, n.d.). This thesis is a contribution to critical librarianship. The nature of librarianship as a socio-political endeavor confers equal responsibility on both scholars and professionals

in this field. It necessitates proactive participation in matters and occasions of social, cultural and political significance. The emergence of Web 2.0 technologies and tagging is one such occasion.

Tagging is the process of labeling online content (Rainie, 2007). Sharing one's personal tags with other users is social tagging. The process of social tagging allows users to organize information intentionally, capriciously, and ideologically. It grants users the power to name. It is in this very act of bestowal and practice of power that I am most interested in. In its broadest sense, social tagging is a social movement and a quintessentially postmodern archetype. As an instrument of socio-political commentary and participation, social tagging has made the construction of meaning an inclusive and emergent pastime. In Library and Information Science, it is an atypical form of indexing. It is an alternative representation of reality – one wrought by those experiencing it. If traditional indexing languages are authoritative, theoretical representations of the world according to classificationists, social tagging is “a classic example of bottom-up building of categories instead of top-down imposition of categories” (Rainie, 2007). National Information Standards Organization's (NISO) “Guidelines for the Construction, Format, and Management of Monolingual Vocabularies” defines indexing and indexing languages as follows:

Indexing - A method by which terms or subject headings from a controlled vocabulary are selected by a human or computer to represent the concepts

in or attributes of a content object. The terms may or may not occur in the content object.¹

Indexing language – A controlled vocabulary or classification system and the rules for its application. An indexing language is used for the representation of concepts dealt with in documents [content objects] and for retrieval of such documents [content objects] from an information storage and retrieval system (ANSI/NISO Z39.19-2005, p. 6).

We are witnessing the beginnings of a revolution in the act of indexing and the construction of indexing languages. Where available, the interpretation and representation of significant characteristics of content objects (Tennis, 2006)² in our library systems is being performed by our patrons. Users are logging in and tagging the contents of our catalogues (e.g. <http://www.aadl.org/catalog>; <http://tags.library.upenn.edu/>). This contribution to libraries and other social tagging sites has generated a fair amount of excitement; people are participating. As scholars and professionals in this field, understanding the participation of taggers - amateur indexers - should be placed among our professional priorities. The freedom afforded us by lack of physical constraint ought to be harnessed for goals other than meeting the traditional objectives of bibliographic systems. As librarians, we ought to encourage and enable social tagging because, at last, we

¹ This definition of indexing is used throughout this thesis as an example of traditional indexing. Although I do not specifically address other types of indexing such as natural language and free text indexing, the point still remains that until social tagging, indexing has been performed without public participation. Only in social tagging has the power to interpret and represent significant characteristics of content objects (Tennis, 2006) been shared with the end user.

² This thesis uses Tennis' 2006 definition of indexing to comprehensively define both traditional indexing and social tagging.

can – the digital library has no shelves. We are able to address the discordance between how the world has been thus organized and how it is seen and experienced by marginalized groups and individuals in our society. It would be negligent to disregard this opportunity:

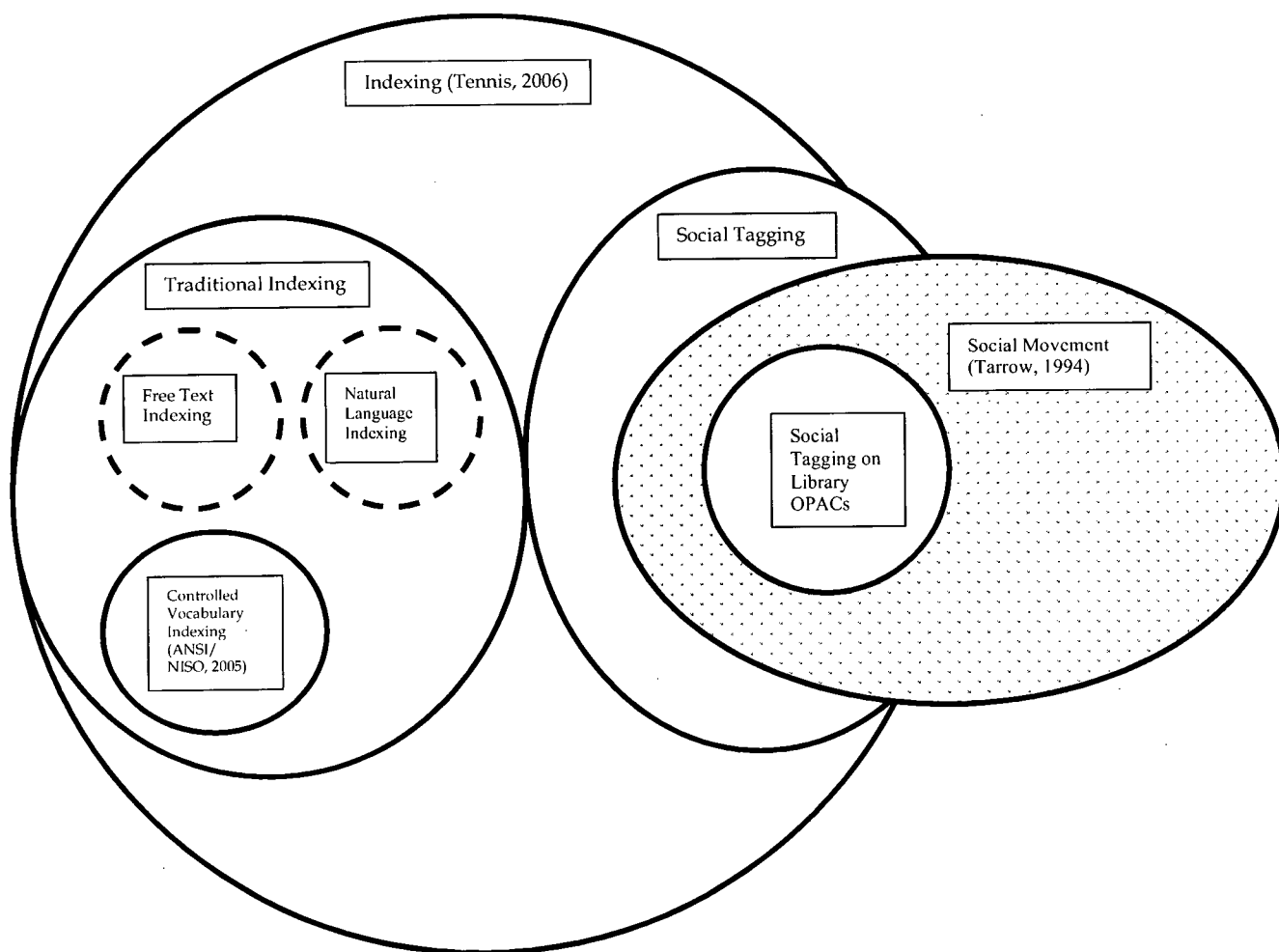
The task for a modern industrial society is to achieve what is now technically realizable, namely, a society which is really based on free voluntary participation of people who produce and create, live their lives freely within institutions they control, and with limited hierarchal structures, possibly none at all (Chomsky, 1991).

In *Technopoly: The Surrender of Culture to Technology*, Neil Postman (1993) invites his readers to ask of any new piece of technology: what is the problem to which this technology is the solution? Here, technology is considered pragmatically and towards human needs and not as an end in and of itself. How and what should we think about social tagging? Which of the many questions should we ask? Conceptually speaking, social tagging is of personal and professional interest to disparate groups of people. Though its novelty may not allow retrospection, its magnitude demands careful reflection. Privileging certain aspects and foregoing others, this thesis has explicit epistemic interests in social tagging as a social movement in response to indexing practices currently utilized in libraries. Though closely related, this work is not a study of technology and its place in human culture. The focus is on social tagging as a human phenomenon and not as an example of the transformative powers of the Internet or technology writ large. Human drive for solution finding is an

essential ingredient of technology (Ciborra, 2004). In libraries, what is the problem to which social tagging is a solution?

This thesis does not assume to describe or capture the multiplicity of ways social tagging may be studied; rather it seeks to establish one possible conceptualization. As outlined in the following diagram we can see the act of indexing comprising social tagging as well as what I have called traditional indexing. The former, social tagging, I set out as a social movement that can admit to an anarchist conceptualization. I argue that this should be established and maintained by participants of critical librarianship.

Figure 1.1: Social Tagging on Library OPACs as a Type of Indexing and a Social Movement (The size of the circles is not significant)



The structure of the thesis follows this conceptualization. Following the second chapter's literature review of social tagging, chapters 3 and 4 take the following positions: a) the act of indexing by social tagging on library OPACs is a social movement, and b) it is recommended that librarians and LIS scholars adopt an anarchist (Kropotkinist) paradigm for the future study, development, and implementation of social tagging. The fifth and concluding chapter will endeavor to summarize and discuss directions for future research.

Chapter Two

Tag, Keyword, Graffito, Indexing Term, Metadata, Literature Review

There is a precise line of separation between a nonrevolutionary and revolutionary situation. In a nonrevolutionary situation, one can solve the pressing immediate problems while postponing the big key problems; in a revolutionary situation, this strategy no longer works and one has to tackle the Big Problem in order to even solve the "small" pressing ones.

- Slavoj Žižek (2006, 380)

Introduction

At this stage in the study of social tagging, we would do well to emphasize its shifting and emergent nature, rather than to attempt a comprehensive characterization. Like its subject, the material currently available on the topic of social tagging is amorphous: journal articles, web publications, conference presentations, podcasts, blog entries, listserv contributions, etc. Their form does not and should not discount their merit. This topic is being written about, and belongs to the masses rather than a select group of researchers. The literature is ever changing, "largely opinion-based" (Speller, 2007) and almost entirely published online. There are enthusiasts (Kroski, 2005; Shirky, 2005; Sterling, 2007) and naysayers (Blood, 2005; Lawley, 2005). There are spectators, soothsayers, and those calling for contextualization and politicization (Quintarelli, 2005). All and all, there is little doubt that social tagging sites such

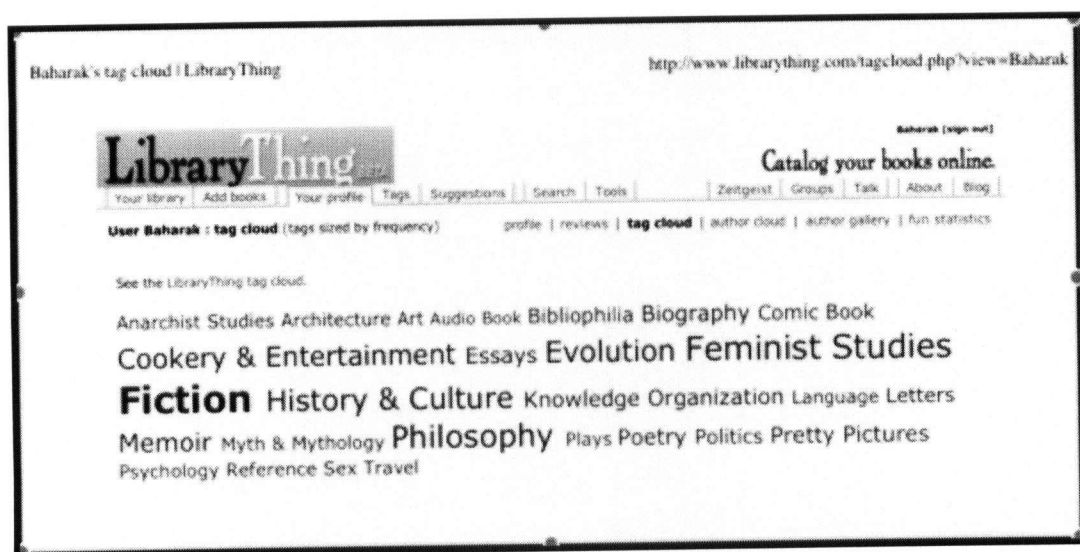
as LibraryThing (<http://www.librarything.com/>), Flickr (<http://www.flickr.com/>), Connotea (<http://www.connotea.org/>), and Del.icio.us (<http://del.icio.us/>) are growing in popularity. They have a combined user base of several million subscribers and new social tagging sites and novice users are being added everyday (Winget, 2006). Though the literature covers a wider range of social tagging sites than those belonging to libraries such as Ann Arbor District Library's OPAC (<http://www.aadl.org/catalog>) and University of Pennsylvania's Penntags enabled catalogue (<http://tags.library.upenn.edu/>), the findings are applicable to the library environment, and where possible, this review's focus will be on social tagging software and their utilization in library systems. In reviewing the current literature on social tagging, several questions are addressed: What is social tagging? What are the advantages and disadvantages of social tagging? In what ways is social tagging a politically useful tool?

Social Tagging: Definitions and Advantages

Social tagging describes the activity and process by which users add descriptive tags to shared, digital content. Social tagging is different from other forms of indexing in two significant ways: the tags are shared, and users and not professional cataloguers, indexers or authors add the metadata. Tagging or labeling digital content is not a new phenomenon. People have been labeling and naming their personal files and bookmarking their favorite websites for

some time (Bruce, Jones & Dumais, 2004). These organizational strategies have served the function of finding and re-finding digital contents for personal use. Social tagging makes users' personal tags publicly available. These contributions result in a particular type of indexing language referred to by a variety of names: folksonomies (Vander Wal, 2004), ethnoclassification schemes, folk classification schemes, social classification schemes and distributed classification systems (Speller, 2007). Folksonomies utilize tag clouds for display purposes.³ Tag clouds or weighted lists, as they are referred to in the field of visual design, are visually effective depictions of assigned tags. Commonly, the more often a tag is used, the larger its size in a tag cloud (Kroski, 2005). Figure 1.1 is a tag cloud from my personal library on LibraryThing. As illustrated by the cloud, the "Fiction" tag is the most frequently used tag, followed by "Feminist Studies".

Figure 2.1: LibraryThing Tag Cloud



³ For the sake of consistency, I will use "folkosonomy" throughout this thesis.

Social tagging allows for inclusive participation in the construction of indexing terms; it offers flexibility (Kroski, 2005). As demonstrated in Figure 1.1, the books that I have tagged “Myth and Mythology”, for example, include religious texts. This is an idiosyncratic way of classifying, which other LibraryThing taggers may or may not share with me. Fluidity and flexibility become particularly significant when certain concepts are not otherwise represented in traditional indexing languages. The term “queer”, for example, was first used in the 1920s as a derogatory term referring to homosexual men (Allen, 1999). Over the course of the 20th century, however, its usage changed significantly, becoming an antonym of normative heterosexuality (O’Rourke, 2005) and gaining emphasis in activism (i.e. queer rights) and scholarship (i.e. queer theory). Clay Shirky (2005) writes:

Look for the word “queer” in almost any top-level categorization. You will not find it, even though, as an organizing principle for a large group of people, that word matters enormously. Users don’t get to participate [in] those kinds of discussions around traditional categorization schemes, but with tagging, anyone is free to use the words he or she thinks are appropriate....

With flexibility comes inclusivity. Issues surrounding the digital divide aside, “metadata is now in the realm of everyman” (Kroski, 2005).⁴ Expert indexers and cataloguers have lost the monopoly on determining the organizational needs of

⁴ Digital divide refers to the gap between those who have access to and benefit from digital technology and those who do not (Digital divide: What it is and why it matters, n.d.)

the public. Simply put, the more people participate in knowledge organization, the more varied and inclusive the categories become. Study of tagging habits and tag distribution (Guy & Tonkin 2006; Tonkin, 2006) found that few tags are used often while the majority of tags are seldom used. There are no attempts to rid folksonomies of the seldom-used tags - the Long Tail (Anderson, 2006), allowing for the inclusive representation of minority interests. Kroski (2005) sees the Long Tail distribution as evidence that "folksonomies include everyone's vocabulary and reflect everyone's needs without cultural, social, or political bias." When combined, the infrequently used tags may even outnumber the popular ones. A certain level of socio-political significance may be attached to the representation of the non-mainstream tags - a topic discussed under the heading of socio-political utility later in this chapter.

Currency is another advantage of social tagging. Digital tags may be created as quickly as digital content. Being adaptive to changing vocabularies and emerging content has been recognized as especially useful in the field of technology and the "blogosphere", but also more broadly relevant (Speller, 2007). That meaning is referential, context-dependent, and changeable, makes currency not only useful, but also necessary. As definitions change over time, so can associations between them. Folksonomies allow for an evolving flexibility and serendipity in browsing not offered by traditional indexing languages. In theory, tag connections and discoveries may be made in real time. As two previously unassociated concepts become linked in the "real world," cyber space

may be updated to reflect and inform almost immediately. Bruce Sterling (2007) writes about folksonomy:

It offers dirt-cheap, machine-assisted herd behavior; common wisdom squared; a stampede towards the water holes of semantics. There is room for scholarly smarts in this approach – for instance, you might invent a really cool term like *folksonomy* – but mostly it's a new way to crowd-surf. It's as though you threw a kayak into a mosh pit and glided not just through Web pages but through labels, concepts, and ideas, too.

The above quote emphasizes financial possibilities, but also, to some extent, serendipitous and artistic potential of social tagging. This particular advantage is elusive and especially subjective. What emerging patterns of knowledge organization will we be witness to, and will they be unusual, unexpected, and beautiful? Social tagging is associated with a certain sense of romantic chaos and unpredictability, which can be interesting as fodder for future discussions.

Currently, social tagging is used far more extensively outside of the library, and the literature is reflective of this trend. What are the implied advantages of utilizing social tagging in library environments? Winget argues: “not only does user-defined metadata give the Library and Information Science community the opportunity to augment and refine our existing classification methods and schemes to be more user friendly, this method of description might also allow for an enhanced human information interaction experience” (2006, 15). Giving users the ability to shape and influence the data with which they interact enhances the human-information interaction experience (Winget, 2006). Active

participation on the part of the user, together with immediate feedback mechanisms (e.g. tag clouds and the ability to view and connect with other users with similar tags and interests) make for enhanced levels of interactive experience. Furthermore, chance discoveries may be made through exploring related tags, which may have otherwise been separated in traditional indexing languages (Speller, 2007). For example, *The Sexual Politics of Meat: A Feminist-Vegetarian Critical Theory* by Carol J. Adams (1990) is listed under the subjects: animal welfare, vegetarianism - social aspects, patriarchy, and feminist criticism in the Vancouver Public Library's OPAC. The provided list captures the main themes of the book. It does not, however, inform the user about an area of study, which brings together the formerly disparate areas of feminism and environmentalism: ecofeminism. If the OPAC of the Vancouver Public Library allowed for social tagging, the "ecofeminism" tag could be easily added thus allowing for the possibility of chance discovery of this relatively new concept. The patron could then explore "ecofeminism" using traditional subject headings or tags.

Winget (2006) suggests that the desire to participate in and benefit from the social aspects of tagging has an effect on users' tagging behaviour. On Flickr, for example, users seem to adhere to a certain set of unspoken conventions, especially if they are interested in their pictures being found by other members and included in tag sets. Users tend to use multiple tags, provide geographical descriptors of their photos, and when appropriate, use multiple spellings and

abbreviations (Winget, 2006). Lack of explicit guidelines and instructions, therefore, does not preclude the observation of unwritten rules and standards. Postmodern political philosopher, Slavoj Žižek (n.d.), describes the weight and power of unspoken rules in the maintenance and promotion of ideology and desired order:

And is this not how ideology works? The explicit ideological text (or practice) is sustained by the “unplayed” series of obscene superego supplement... the explicit ideology of socialist democracy was sustained by a set of implicit (unspoken) obscene injunctions and prohibitions, teaching the subject how not to take explicit norms seriously and how to implement a set of publicly unacknowledged prohibitions.

Social Tagging: A Critical Analysis

Simply put, the main criticisms of social tagging are that tags are not “good” enough. For a myriad of reasons, tags assigned by the public may not be what the critic and the professional would have assigned. The following points are samples of criticisms. Users may “try to game the system” (Lawley, 2005) by deliberate mistagging of content. Tagging gives “free reign to sloppiness” (Mejias, 2005). For example, tags can be misspelled or inconsistently assigned. Synonyms and homonyms are not controlled (Speller, 2007). Tags can be offensive to other users (Blood, 2005). In terms of indexing terms, there is little overlap between tagging and traditional content indexing languages such as the Medical Subject Heading (MeSH) thesaurus (Lin, Beaudoin, Bui, & Dasai, 2006). Folksonomies are not particularly useful for finding specific, accurate

information, but as Bruce Sterling (2007) argues “that’s beside the point.” Critics of social tagging ask the wrong questions and confuse the purpose of tags.

Imagine, for example, that up until a year ago, the only types of shoes we were familiar with were comfortable walking and running shoes. Now, imagine a designer introducing a line of patent leather women’s shoes with six-inch stiletto heels. To argue that these shoes would not make comfortable for walking and running would be nonsensical. To criticize a technology for not doing what it is not designed to do is a similar misdiagnosis.

What, then, is the purpose of folksonomies? This is an important and necessary question with many emerging answers. Any given information system is designed with the purpose of satisfying one or a set of objectives. The purpose of something is its intention. Questions relating to purpose are best asked using the adverb “why.” For example, “why are you peeling an orange?” or “why was Connotea created?” In asking such questions, you are inquiring about someone’s or something’s purpose – their intentions. In her text *The Intellectual Foundations of Information Organization*, Elaine Svenonius (2000) explores and emphasizes the importance of a full understanding of the objectives as the first step in the design and construction of any and all bibliographic systems. She states that purpose should determine ontology and not vice versa (2000).⁵ It is, therefore, not

⁵ The exact phrasing is as follows: “In the design of a database objectives should determine ontology and not vice versa, since for any given set of objectives, alternative models can be developed for alternative purposes” (Svenonius, 2000, 18). Given an earlier assertion that purpose is “the objectives to be achieved by a system for organizing information” (2000, 1), I have used *purpose* and *objective* interchangeably.

feasible to evaluate something without understanding its objectives. According to Svenonius, the following five functions are the objectives of a full-featured bibliographic system: finding, collocating, choosing, acquiring, and navigating. This list cannot be used to evaluate and criticize social tagging systems. We must hold these systems accountable to a different set of criteria: one which is in line with their stated (and otherwise ascertained) purposes.

Prior to discussing what folksonomies are designed to do, let us be clear that there is no evidence or claim that they have been designed to replace traditional indexing languages. It is, therefore, not necessary to make tags behave like controlled vocabularies and folksonomies behave like known indexing languages, because though they may complement each other, their purposes are different. The problem of single-design focus in Library and Information Science is addressed by Good and Tennis:

There are differences here, differences that shed light on the nature of these initiatives [information organization frameworks]. Yet, not everyone in the Information Sciences sees information organization as a diverse set of approaches. Some claim that folksonomies are nothing new or that they are nascent structures on an inevitably teleological path toward discovering authority control (2007, 2).

Good and Tennis (2007) studied the purpose, work practice, and structure of two example systems, Connotea (<http://www.connotea.org/>) and MEDLINE (<http://medline.cos.com/>) to illustrate the intentional differences between the two systems. Connotea, a social tagging site with the intended audience of

scientists, has as their motto: "Organize, Share, Discover." MEDLINE, an indexing system and bibliographic database that utilizes the Medical Subject Headings thesaurus, strives "to enable search retrieval by eliminating (or accounting for) the use of variant terminology for the same concept" (Good & Tennis, 2007, 3). I will review the "purpose" part of their discussion and findings here.

The authors used a list of six different purposes as comparison points between Connotea and MEDLINE, and found that they overlapped on only one purpose – finding. Connotea's list of objectives also included management of personal collections, sharing of resources among peers, and interaction with the information organization system (e.g. tagging), while MEDLINE, along with the finding objective, listed collocation of resources and retrieval through precision and recall. Looking back at criticisms of social tagging discussed earlier, sloppiness and inconsistent tagging (Mejias, 2005), uncontrolled synonyms and homonyms (Speller, 2007), and little overlap between folksonomies and indexing languages such as MeSH terms (Lin, Beaudoin, Bui, & Dasai, 2006) are all related to two objectives, which Good and Tennis (2007) list as belonging to the traditional indexing as opposed to social tagging systems: namely collocation and high degrees of precision and recall in retrieval.

As Good and Tennis (2007) demonstrate, there is something fundamental to be gained from studying the surrounding discourse of these information organization frameworks. However, an empirical investigation of taggers'

motivations would also add to this discussion of purpose and inform future design objectives. As systems, which rely entirely on user participation, the users' objectives must mirror that of the creators and, by extension, the information organization framework. These are not detached, independent systems, which would function without the input of their users. Although it is important to study the objectives of the creator (and the systems), it is necessary, in the long run, to ensure that users' objectives are also being met. The theoretical work presented on user and motivations offer the following as possible incentives: future retrieval, contribution and sharing, attention, play and competition, self-presentation, and opinion expression (Marlow, Naaman, boyd, & Davis, 2006). The data seems to be largely gathered through the examination of systems and tags as opposed to direct user studies such as interviews or questionnaires. This gap in empirical research and scholarship will be further addressed in the concluding chapter of this thesis. To summarize, the research and findings on how social tagging and folksonomies work is varied and emergent. The following paragraphs will address the question of why, ideologically speaking, social tagging and folksonomies may be of value to our library systems.

Thus far, the critical issues discussed in this chapter have been more procedural than ideological. One of the topics, which was discussed as an advantage of social tagging is the flexibility which folksonomies afford knowledge organization in general. The fact that users have the capacity to

organize and categorize according to their own purposes and beliefs is socio-politically significant and will be discussed further in the following section.

However, critics may resist and condemn these same freedoms on ideological grounds. To protest against publicly assigned tags is to question the philosophy of social tagging at a very basic level. For example, one critic described being personally offended by a photo on Flickr, which was tagged MLK (Martin Luther King):

Unfortunately, for a few hours this morning the most recent tagged photo under MLK was a picture of a protester's sign that read "Setting aside our differences to focus on our common goals: peace, love, harmony, killing Jews, and tolerance." Nice. Now, that photo is perfectly appropriate on Flickr as part of an individual's collection, and as documentation of Sunday's rally. It's perfectly appropriate as an illustration for "protests", or even "Israel" and "Palestine", even though it surely will offend some people wherever it appears. But it is not appropriate to illustrate a category tagged "MLK". I was personally offended - these sentiments reflect the polar opposite to those espoused by Dr. King (Blood, 2005).

To engage in debate about the offensiveness or "appropriateness" (read "truth") of certain tags is to undermine the conceptual foundations of social tagging. The point of social tagging is for individuals to have their say without interference and censorship of any kind. This freedom forms the basis for the socio-political potential and efficacy of social tagging.

The Socio-political Utility of Social Tagging

The freedom of library patrons to interpret and represent content objects according to their points of view is social tagging's principal ideological and socio-political contribution. In the previous section, it was established that finding, management of personal collections, sharing of resources among peers, and interaction with the information organization system were four purposes of social tagging systems (Good & Tennis, 2007). It was also argued that social tagging and folksonomies are not to be thought of as substitutions for traditional indexing work performed by professionals and indexing languages produced by them. Social tagging software may be added to already existing classificatory structures on online public access catalogues of libraries to enhance rather than replace the already offered services. Though management of personal collections, sharing of resources, and the ability to interact with information organization systems are all interesting additions to online public access catalogues, they are not ends in and of themselves, but rather means towards what I see as the greater, more significant, and critical purpose of patron participation in indexing. Now that we have the technological capabilities to allow for public participation, we must ensure its implementation. As I argue, our current indexing languages are arbitrarily selected and ideologically flawed, but as they are the only systems we currently have that meet the objectives of full-featured bibliographic systems such as collocation and precision and recall in retrieval (Svenonius, 2000), then we must content ourselves with supplementing

as opposed to supplanting our current classification schemes and indexing languages.⁶ Folksonomies provide alternative access to traditionally organized materials. More importantly, however, they are the only available access point for alternative materials that are not accessible through or hidden by traditional indexing languages (Quintarelli, 2005).

The most socio-politically important feature of folksonomies is that they are inclusive:

They include everyone's words and vocabulary without leaving anything out. There is no central authority imposing a top-down view, and every voice gains its space. This aspect that the power law trend imply that by using folksonomies, we can also discover long tail topics: original, non-mainstream ideas can emerge from the interest of a small fraction of the population to the attention of the mass (Quintarelli, 2005, 11).

Folksonomies are manifestations of user-generated aggregation of information, which allow taggers to reclassify and regroup according to their own needs and belief systems. They are inclusive, rather than authoritative.

A second espoused socio-political advantage of folksonomies is their flat rather than hierarchical structure (Quintarelli, 2005). Though this is true in some folksonomies, it is not necessarily the case in all of them. Hierarchies can and do commonly exist within folksonomies (Kome, 2005; Tonkin, 2006; Voss, 2006):

Decades of research into human cognition and categorization activities have found that categorization is a fundamental human cognitive activity,

⁶ A detailed discussion of this topic will be provided in the third chapter of this thesis.

examples of category systems exist across cultural and lingual differences, and they share numerous traits including hierarchical organization (Kome, 2005, 2).

Socio-politically speaking, the advantage of folksonomies is ideological and not structural. The discovery and existence of hierarchies within folksonomies does not discount the fact that they are non-authoritative. Here, then, "bottom-up classification" does not refer to the classificatory structures, rather the way in which the folksonomies – hierarchical or not – come to be. Having a non-hierarchical classificatory structure is a fortuitous rather than essential characteristic of folksonomies. What is important is that folksonomies allow users to be active participants in the comprehension and organization of information: "It comes down ultimately to a question of philosophy. Does the world make sense or do we make sense of the world?" (Shirky, 2005).

Traditional classification structures imply that the world makes sense. Users' understanding of a given piece of information must, therefore, be reconciled and altered to reflect that of classificationists. Folksonomies, on the other hand, allow their users to make sense of the world. They do not privilege "one top level of sense-making over the other" (Shirky, 2005). Social tagging is a step towards leveling the playing field of knowledge organization; performed by taggers, it has allowed the users of these information systems the possibility of utilizing non-authoritative folksonomies alongside traditional, authoritative indexing languages. In his 1994 text, *Power in Movement: Social Movements, Collective*

Action and Politics, Sidney Tarrow presents the anatomy of a social movement: collective challenge, common purpose, solidarity, and sustaining collective action. In the following chapter, I argue for the conceptualization of social tagging as a social movement given Tarrow's four constructs. The proposition to align the characteristics of social tagging with that of social movements highlights the socio-political potential of social tagging and is, therefore, well suited to the aspirations of critical librarianship discussed in the introductory chapter of this thesis.

Chapter Three

The New Order of Social Tagging

The organization of the world is a task for realists. The poet and the workman will always be victims of power and interest. The world will ever be run by a mystic idea, because by the time it begins to function it ceases to be mystical... The realist always conquers the poetic as the human. Interest wins out.

- Anaïs Nin (1936, 1995 ed. 341-342)

The Radicalization of Indexing

Social tagging is a specific kind of indexing (Tennis, 2006); given content objects such as books, websites, or photographs, taggers interpret the objects and use tags to represent them in information systems such as online public access catalogues (OPACs) of libraries, and social tagging websites such as Del.icio.us (<http://del.icio.us/>) and Flickr (<http://www.flickr.com/>). Even though social tagging is a type of indexing, it has transformed it significantly. How has this seemingly simple act of tagging content on the open Web revolutionized indexing? How are folksonomies radically different from other forms of known indexing languages? To begin, knowledge organization, as embodied by social tagging, is no longer limited by physical constraints. As far as taggers are concerned, content objects need not be represented in one place only. The digital organization of content objects allows indexers previously nonexistent freedoms. To use Anaïs Nin's characterizations, realism and poeticism can coexist; the

world may be mystically organized. What is more, this act of indexing performed by taggers has liberated the users of these information systems from having to contend with a single, authoritative indexing language. Weinberger calls this progression the “third order of order” (2007, 19), with the first and second orders of order being the physical organization of items (i.e. on shelves) and their representation in information systems (i.e. library catalogues) respectively. In libraries, catalogues separate the information about the items from the items themselves, while pointing to the physical space where they have been stored. Weinberger (2007, 22) argues: “Second order organization, it turns out, is often as much about authority as about making things easier to find.” The way in which items are interpreted and represented is dependant on whose worldview has prevailed:

Classification is a power struggle – it is *political* – because the first two orders of order require that there be a winner. The third order takes the territory subjugated by classification and liberates it. Instead of forcing it into categories, it *tags* it (Weinberger, 2007, 91-92, emphasis original).

Weinberger’s (2007) third order organization (social tagging) has changed the ways in which we think about indexing in general but also, and more importantly, it has given us the tools to counterbalance the worldviews and limitations imposed by the authority of classificationists:

As Dewey’s biographer Wayne A. Wiegand writes, the organization of knowledge Dewey produced solidified “a worldview and knowledge structure taught on the Amherst College campus between 1870-1875” – a

worldview and structure that assumed the West was the most advanced culture and that Christianity laid the foundations of truth (Weinberger, 2007, 53).

Though we may have always known and understood these limitations, we have lacked the capabilities to work around them. Once the exclusive domain of professional indexers, establishing “aboutness,” to use indexing parlance, is now also carried out by taggers.

In library indexing, the choice between traditional indexing languages and folksonomies (Weinberger’s second and third order organizations) need not be mutually exclusive. Social tagging is qualitatively different; it has a separate purpose. In the second chapter of this thesis a set of four purposes of social tagging was offered: finding, management of personal collections, sharing of resources among peers, and interaction with the information organization system (i.e. tagging) (Good & Tennis, 2007). I further argued that the freedom of library patrons to interpret and represent content objects in accordance with their points of view is social tagging’s principal ideological and socio-political contribution. With multiple indexing contributions from taggers comes enhanced alternative access to content objects. For example, the book *Henry and June: From A Journal of Love: the Unexpurgated Diary of Anaïs Nin* has the following subjects listed in the Vancouver Public Library’s OPAC:

- *Nin, Anaïs, 1903-1977 – Diaries.*
- *Miller, Henry, 1891- relations with women – Anaïs Nin.*
- *Authors, American – 20th Century – Diaries.*

These access points serve the needs of some patrons some of the time. They do not, however, represent the book to everyone's satisfaction – they never can. I, for example, would add “feminism”, “erotica”, and “June Mansfield Miller” as tags for this particular book, highlighting otherwise ignored or hidden aspects of the document. Even with those added tags, the document can still be indexed further to a different person's or group's satisfaction. The point here is that the more people have the opportunity to tag this particular book, the more aspects of the book will be represented. More index terms added by the library's patrons are bound to represent additional points of view. Not only would *Henry and June: From A Journal of Love: the Unexpurgated Diary of Anaïs Nin* be more fully indexed - and thus, one could argue, the representation would be more faithful to the multitude of relationships between the document and its readers - but it could also be accessed using a larger variety of search terms. Let us, for example, imagine that I, as a user of the Vancouver Public Library system, have just recently read about June Mansfield Miller in a book called *Twilight Years: Paris in the 1930s* (Wiser, 2001). I have learnt that she was Henry Miller's second wife and his inspiration for the character “Mona” in Miller's 1934 novel, *Tropic of Cancer*. I also learnt that she attempted, but failed to destroy Miller's manuscript of *Tropic of Cancer* before it was published. She was a taxi dancer, and a woman with “a neck out of a Modigliani painting” (Wiser, 2001, 182).⁷ I am fascinated by this woman and would like to read more about her. Unfortunately, I find it

⁷ A taxi dancer is a paid, professional dance partner.

difficult to find documents about June Mansfield Miller using the Vancouver Public Library's catalogue. I try several search strategies:

- Keyword Anywhere: *June Miller*
- Keyword Anywhere: *June Mansfield*
- Subject Browse: *Miller, June*
- Subject Browse: *Mansfield, June*
- Subject Browse: *Miller, Henry, 1891 – relations with women*

None of my conducted searches result in documents containing information about June Mansfield Miller. At the end, I remain unaware of Anaïs Nin's *Henry and June: From A Journal of Love: the Unexpurgated Diary of Anaïs Nin*, even though the title character is the same June Mansfield Miller I have been searching for. It is not possible for professional indexers to highlight every aspect of every content object. It is however possible, with social tagging, to allow space for interpretation and representation by others who do not normally participate in this process. Tags added to records in library catalogues would allow patrons to seek, find, and evaluate information from alternative viewpoints, using alternative paths. These points of view will, in some cases, draw attention to aspects of content objects that are intentionally or unintentionally hidden by the particular indexing language being used. Therefore, social tagging would enhance the information literacy of our patrons. As discussed previously, information literacy is a socio-political skill (Andersen, 2006). When utilized in Online Public Access Catalogues of libraries, social tagging would enhance our patrons' socio-political skill sets:

Social organization matters as the way documents and knowledge are organized in society is a reproduction of the social and ideological organization of society. But it is not a passive reproduction. The organization of documents and knowledge in society also shape society's social and ideological organization (Andersen, 2006, 222).

Society's social and ideological organizations, as reflected by ways in which knowledge is organized, privilege certain groups and oppress others. For example, evidence of patriarchal bias in library classification schemes is well documented (Olson, 2002; Foskett, 1971; Berman, 1984; Palmer & Malone, 2001). In *Power to Name: Locating the Limits of Subject Representation in Libraries*, Olson (2002, 9) summarizes an extensive body of research conducted on the existence of sexism in the Library of Congress Subject Headings, Dewey Decimal Classification, and Cutter Expansive Classification, and presents three general findings: they treat women as exceptions to a masculine norm; they ghettoize women's issues by separating them from the rest of knowledge; or they omit women's issues altogether. Olson (2002) further invokes the myth of Procrustes, the brigand "who possessed a hammer, a saw and a bed. He compelled travelers to lie on the bed, and those who were too long for it he would cut down to size; those who were too short he would hammer out until they fit exactly" (Morford & Lenardon, 1995, 459). She does so to elucidate the absurdity of the quest of universality pursued by classificationists such as Melville Dewey and Charles Cutter. She maintains that the desire for universality is one of the most significant barriers to effective change in subject representation and access. "The

universal language itself is constructed on principles that marginalize or exclude the abnormal or unusual deviations – the *Other* – from the singular public's norm" (Olson, 2002, 80, emphasis and capitalization original). Through the act of naming, she argues, librarians select what is represented and what remains unnamed and in doing so, involve themselves in the act of information construction or creation rather than information representation alone:

Naming is the act of bestowing a name, of labeling, of creating an identity. It is a means of structuring reality. It imposes a pattern on the world that is meaningful to the namer. Each of us names reality according to our own vision of the world built on past meanings in our own experience. Each of us creates our own structure through naming. Naming is, therefore, not a random process even though it is varied (2002, 4).

Traditionally, indexers choose from exclusive and finite vocabulary to describe the subject content of a document; are limited to choosing one and only one indexing term for each concept, and are further constrained by pre-existing structures that define the relationships between indexing terms (Olson, 2002).

What does Olson recommend we do? She proposes three principles to guide the development of techniques for change and subversion (verbatim):

1. Make breaches in the limit; make it permeable, rather than defining it or constructing a new limit.
2. Make spaces, rather than filling them: the spaces are for the *other* to fill should she desire to do so.

3. Be dynamic; address the relevant discourses in a given context: they must be reflexive, changing responsively over time and space in the broadest sense (2001, 21, emphasis in original).

The principles presented by Olson (2001) are admittedly nebulous. However, they fit within Olson's (2001, 2002) more general plea for inclusion of "the other" in areas of significant decision-making in knowledge representation. She warns against defining, filling spaces, and constructing limits; she asks instead for permeability, allowance of space, and responsive change:

Techniques that follow these principles seem risky to library and information professionals steeped in the tradition of the presumption of universality in naming. The reason for this dis-ease is that making space for the voice of the *other* means that *one* must relinquish power to the *other* – power of voice, construction, definition. Instead of possessing this power exclusively, we who are on the inside of the information structures must create holes in our structures through which the power may leak out. Two groups of people are obvious *others*, just on the other side of the limit: authors and library users (2001, 22, emphasis in original).

Olson (2001) further argues that our discipline of Library and Information Science has, for some time now, been involved in discussing and researching the possibility of making information available through the natural language of authors. What is more complicated and, in this case, far more interesting is the making of space for the participation of library users. Olson (2001, 22) imagines

paths of a garden where subsequent visitors may choose to travel in the footsteps of others who have come before them. She writes:

Library users would be allowed to create paths through indexes and catalogues that other users could then follow as far as they found them useful or interesting. Instead of the *one* having power, power could be taken by *one* or the *other* – accompanied by responsibility” (2001, 22, emphasis in original).

Olson (2001) does not elaborate on the nature of the responsibility she speaks of, but one can assume that she is referring to the responsibility of the participant writ large. Nor does she give specific details about the ways in which this “garden” may be created other than to speak about “some kind of hypertext facility for creating connections between items in a database” (2001, 22). It would not be unwarrantedly hopeful to argue that the tone and language used by Olson (2001, 2002) is in line with current discussions concerning the deployment of social tagging in library catalogues (Quintarelli, 2005; Winget, 2006) reviewed in the first chapter. Currently, there are no limitations imposed on taggers by controlled vocabularies or tag quantities. Taggers can choose their tags freely and use as many tags as they see fit to represent each content object. Furthermore, relationships between content objects are created spontaneously as other taggers use the same tags to represent other content objects. There are no pre-determined structures within folksonomies. Unstructured and structured indexing languages serve different functions. Intentionally disparate from the serendipitously created paths anticipated by Olson (2001), traditional indexing

languages provide a needed service: collocation and high degrees of precision and recall in retrieval. The cost of this procedural efficiency is ideological. Such indexing languages, through the use of controlled vocabularies, work to create and maintain the status quo: "These devices function like DNA; they enable the current system to replicate itself endlessly, easily, and painlessly" (Delgado & Stefancic, 1989, 208). Social tagging would allow us to be cognizant of beaten paths and, insofar as we may, work around them.⁸

To summarize, social tagging has indeed revolutionized indexing, and folksonomies are radically different from other forms of known indexing languages. What they have offered does not amount to significant quantitative differences in interpretation and representation of content objects, such as more efficient results lists. The change is qualitative. Adding social software to library OPACs and enabling social tagging is a socio-politically significant decision, which challenges the legitimacy of traditional indexing languages and enhances the information literacy - the ability to seek, find, and evaluate information - of

⁸ Tangentially, in light of Olson's denunciation of universality and sameness as desirable goals, it is important to note that her discussion of the existence of sexism in library classification schemes is used here as a case in point and not as a catchall illustration of the systematic treatment of other "other" categories (i.e. race, class, sexual orientation) within traditional indexing languages or classification schemes. Using the existence of sexism to illustrate all other exclusions or misrepresentations would be akin to the process of marginalization in subject representation, which we have thus far condemned. Sexism refers to a very specific form of discrimination. It does not assume other forms of prejudice and should not be privileged over them. An indexing language or classification scheme may not be sexist, but still be biased in other ways. We would not want to lie in our own Procrustean bed.

library patrons, rendering social tagging not only a particular kind of indexing, but also a type of social movement. Library and Information Science's conceptualization and commitment to the ideological import of social tagging is related to the discipline's role as a socio-politically relevant profession and field of study.

Social Tagging as a Social Movement

Reasons for an individual's participation in social movements are numerous. Among them are group interaction and solidarity, personal gain, and principled, genuine commitment to a cause (Tarrow, 1994). This diverse list of motivators makes it difficult to predict future participation or exercise any meaningful levels of control over the behaviours of current participants. Though inconsistently secured, people's desire to participate in collective action does to some degree depend on social networks, shared cultural understandings, and the availability and strength of external – often political – opportunities (Tarrow, 1994). Why do people engage in collective action? In the case of social tagging, why do taggers tag? It is important to ask about motivation because although the result will be a heterogeneous list, it is useful to gain some understanding of the parameters. Are taggers tagging for personal purposes alone or is the social aspect of social tagging important to them? Do taggers who tag on library OPACs such as the Ann Arbor District Library (<http://www.aadl.org/catalog>) and University of Pennsylvania Library (<http://tags.library.upenn.edu/>) do so

because they understand the ideological import of their actions, or is disturbing the status quo and providing others with alternative access points an opportune byproduct of their actions? At the time of writing this chapter, I am not aware of any research projects conducted on taggers' motivations. This is an open research question with significant implications regarding the commonality of purpose and solidarity in social tagging as a social movement and its viability as a complement to traditional indexing. Currently we do not know why taggers participate in social tagging and once we ask, it is likely that there will be many different reasons. With that in mind and for the time being, the following paragraphs will focus on the fact that taggers *are* motivated, and they *do* participate, and that the results of their participation is socio-politically significant. Whether taggers are tagging content objects in library catalogues because they are aware of the subversive nature of their actions remains to be studied. What is of note at this time is that their contributions have laid bare the inadequacies inherent in traditional indexing languages. Unlike traditional indexing languages, folksonomies are not restricted by exclusive and finite vocabularies and structural limitations; rather they are flexible and relevant to the needs of taggers who create them.

Social movements are defined by contentious collective action and their formation occurs when political opportunities arise for social actors who, generally speaking, lack them: "Movements," Tarrow argues, "are better defined as *collective challenges by people with common purposes and solidarity in sustained*

interaction with elites, opponents, and authorities" (1994, 3-4, emphasis in original).

Though both contention and collectivity come in many forms, they are the shared components among social movements. At a very basic level, social movements are a group of people mobilizing against a more powerful agent. Extreme or violent action, often associated with social movements, is not a necessary part of contention; rather such movements are manifestly contentious because they are the collective's most significant, if not only, recourse against their more dominant adversaries (Tarrow, 1994). The collective aspect of social movements is self-explanatory: the challenges faced affect groups of people rather than individuals. In his 1994 text, *Power in Movement: Social Movements, Collective Action and Politics*, Sidney Tarrow provides the basic properties of social movements: collective challenge, common purpose, solidarity, and sustaining collective action. Social tagging, I will argue in this chapter, meets the criteria presented by Tarrow (1994) and may be reasonably viewed as a social movement.

Collective Challenge

Collective challenge is the first of four basic properties of social movements enumerated by Tarrow (1994). It is an example of collective action mounted by social movements and is characterized by "interrupting, obstructing, or rendering uncertain the activities of others" (Tarrow, 1994, 4). Collective challenges are not the only type of collective action utilized by social movements;

rather, they are quintessential. Social movement groups employ disruptive and challenging action, as they do not, generally speaking, have access to financial resources and socio-political platforms required for other forms collective action, such as lobbying and negotiation. It can be argued that social tagging is an example of collective challenge against traditional indexing practices. When enabled in library OPACs, social tagging has the capacity to interrupt, obstruct, and render uncertain the dominance of top-down, authoritative indexing languages. Which properties of traditional indexing languages make them suitable targets of social tagging as a collective challenge? Social tagging as a particular kind of indexing is, in essence, postmodern while traditional indexing and indexing languages are based on a modern view of the world. Mai makes the following distinction:

Classic tradition of classification theory is based on a modern view of the world. This includes the idea that classifications can be a neutral and objective mirror of an already there universe of knowledge. A postmodern theory of knowledge organization rejects this assumption and instead places focus on the social praxis and the language of the community for which knowledge organization is created (1999, 548).

Modern indexing languages are assumed to be descriptive and objective, whereas postmodern indexing regards objectivity and neutrality as an unattainable goal. In this context, the point of divergence between modernism and postmodernism is postmodernism's commitment to the social constructionist view of knowledge. The shift between modern and postmodern

perspectives on indexing would necessarily include a change “from a (intended) reflection of the universe of knowledge to a pragmatic tool in the mediation between author and user” (Mai, 1999, 554, parenthesis original). For postmodernists, then, all indexing is wrong, but some indexing is useful.⁹

A postmodern view of indexing challenges the objectivity of the practice. It holds that a given indexing language is not a “true” reflection of content objects and their relationships to each other rather a particular view of such objects at given times by given persons. Folksonomies, as indexing languages, are openly and manifestly postmodern and confess their social construction. They, therefore, posit a challenge to modern indexing languages. In his 1999 text, *The Social Construction of What?* Ian Hacking provides a framework of social construction, which I use here to examine indexing languages as socially constructed phenomena. He further lists six gradations of commitment within the constructionist framework, implicit within which are six grades of response categories. Faced with Modern Indexing Language X, social constructionists would hold that:

1. Modern Indexing Language X (MILX) need not have existed, or need not be at all as it is. MILX, or MILX as it is at present, is not determined by the nature of things; it is not inevitable.

Often the social constructionist would go further, and argue that:

2. MILX is quite bad as it is.

⁹ A homage to statistician George E. P. Box’s famous quotation: “all models are wrong, but some models are useful.”

3. We would be much better off if MILX were done away with, or at least radically transformed (Hacking, 1999, 6).

In a physical sense, it is obvious that Modern Indexing Language X is socially constructed. Hacking (1999) argues that emphasis must be placed on the difficult distinction between *object* and *idea*. Obviously objects (in this case, indexing languages) are not inevitable, whereas the *idea* of indexing languages as objective and accurate representations of the world can be viewed as something that is unavoidable. It is, therefore, necessary to be explicit that by using Hacking's stipulations, I am referring to the ideological structure of indexing languages and not indexing languages as physical objects created by classificationists and indexing committees. What is being argued here, is: the modernist discourse holds that indexing languages are structured the way they are because they are objective tools, which mirror the world of knowledge as it exists in "reality." Modernists take the ideological structure of traditional indexing languages for granted; they view it as an inevitability given the structure of knowledge in the "real world".

In response to establishing that Modern Indexing Language X is socially constructed, a social constructionist will have different recommendations and reactions to the three statements mentioned above, resulting in the six grades of constructionism:

1. Historical: A social constructionist presents a history of MILX and argues that MILX has been constructed in the course of social processes. Far from being inevitable, MILX is the contingent upshot of historical events. A historical constructionist could be non-committal about whether MILX is good or bad.
2. Ironic: MILX, which we thought to be an inevitable part of the world or of our conceptual architecture, could have been different. We are nevertheless stuck with it, it forms part of our way of thinking, which will evolve in its own way, but about which we can do nothing much right now.
3. Reformist: This grade of constructionism takes the second step, MILX is quite bad as it is, quite seriously. We should do something to change some aspects of MILX in order to make MILX less pernicious. An example of a reformist step towards reducing the harm caused by MILX is to submit new indexing terms to the committee in charge of MILX.
4. Unmasker: Once one sees the extra-theoretical function of an idea, it will lose its practical effectiveness. MILX is unmasked not so much to disintegrate it, but to strip it of its false authority and appeal. An unmasker may or may not be a reformist and vice versa. These two categories are placed on the same plane. An unmasker would be interested in exposing MILX and removing its epistemic authority. At this stage in the development of indexing languages and given that social

tagging and traditional indexing languages have been argued to serve different purposes, the position of this thesis would be that of a unmasker social constructionist.

5. Rebellious: A constructionist who actively maintains that MILX is not inevitable, MILX is bad, and we would be better off without MILX. A rebellious constructionist is committed to all three steps on an intellectual level. For example, a rebellious social constructionist would write a paper recommending social tagging as a replacement for MILX.
6. Revolutionary: An activist constructionist who moves beyond the world of ideas and tries to change the world in respect to MILX is a revolutionary. A revolutionary social constructionist, for example, would be a librarian who introduces social tagging on her library's OPAC and removes all other indexing terms (Hacking, 1999, 19-20).

In the last two steps of social constructionism presented by Hacking (1999), there is no desire to work within, rework, revise, or improve existing indexing languages; nor is there an aspiration for creating newer models and enhanced replicas. There is no commitment to maintain any of our presumptions or to work within our existing frameworks. The challenge, which is currently mounted on library OPACs by social tagging against traditional indexing languages does not, at this time, fall within Hacking's (1999) last two steps of social constructionism. Social tagging added as a feature alongside traditional

indexing exemplifies the coexistence of postmodernist and modernist indexing practices. Due to this coexistence, the social constructionist level of commitment remains at Hacking's (1999) fourth step - unmasker.

To summarize, social tagging meets Tarrow's (1994) first basic property of social movements - collective challenge. Social tagging interrupts, obstructs, and renders uncertain traditional indexing practices. More specifically, folksonomies, as postmodern indexing languages, challenge the dominance of modernist, traditional indexing languages. As this challenge is brought about by large numbers of participants, social tagging is a collective challenge.

Common Purpose & Solidarity

Common purpose and solidarity, the second and third properties of social movements, will be discussed together as solidarity among a group of people is the result of their acknowledgement of common purposes and interests. "It is participants' *recognition* of their common interests that translates the potential for movement into collective action" (Tarrow, 1994, 5, emphasis original). While certain social movements have been marked by lively demonstrations or mob-like behaviours, spectacle is not often the primary purpose or a necessary part of social movements. Rather, the group seeks "to mount common claims against opponents, authorities or elites" (Tarrow, 1994, 4-5). Effective leaders of social movements are often those who emphasize the ties that exist among the participants. The distinction between unacknowledged and acknowledged

commonalities in purpose and interest is important because though unacknowledged commonalities may exist, they do not translate into collective action, which is needed for social movements. How are unrecognized commonalities elucidated?

Tarrow argues that engaging in "framing work" is necessary for the mobilization of social movements. He offers the following explanation of "framing work":

... it is no simple matter to convince timid people that the indignities of everyday life are not written in the stars and can be attributed to some agent, and that they can change their conditions by taking action collectively. Inscribing grievances in overall frames that identify an injustice, attribute the responsibility for it to others and propose solutions to it, is a central activity of social movements (1994, 123).

Furthermore, framing work involves the building and advocating of a discourse of injustice, which names and defines the targets of the collective action.¹⁰ Most aware of the limitations of traditional indexing languages are librarians and scholars in the field of Library and Information Science. They can choose to partake in framing work and become active participants in the mobilization and maintenance of social tagging as an alternative kind of indexing and a social movement. They can choose to engage in critical librarianship and assume the social and political responsibilities inherent within their profession (Andersen,

¹⁰ The work of authors such as Clay Shirky and David Weinberger may be seen as "framing work" in relation to Web 2.0 technologies writ large. The work, which is required now, is similar contributions in relation to the implementation of social software on library OPACs.

2005). This participation may take the form of writing, action research, discussions, formal lectures, advocacy for social tagging or any other forms of communicating and exposing the current state of affairs in indexing.

[For] social movements are deeply involved in the work of “naming” grievances, connecting them to other grievances and constructing larger frames of meaning that will resonate with a population’s cultural predispositions... (Tarrow, 1994, 122).

As is the case with established social movements, individual taggers have different reasons for tagging. However those aware of social tagging’s potential as a collective challenge can be instrumental in bringing about the recognition of a common purpose and solidarity. For example, a tagger who tags primarily for personal reasons may also tag for reasons related to tagging as a collective challenge against the indexing language used in her public library. Personal motivations and common purpose within social movements need not be mutually exclusive.

Given the historical endurance and preeminence of authoritative indexing languages, framing work in favour of social tagging would not be easy or uncontested. Opposition is likely from both librarians and the public. Tarrow (1994) discusses two ways in which resisted mobilization can overcome such obstacles. The first is the slow process of formation and mobilization of consensus. Consensus formation is the passive and eventual acceptance of change, which takes place when old and new social structures coexist for a prolonged periods of time. Consensus mobilization is the active promotion of

that change through agents such as the media. Both passive and active consensus building require less organizational effort than the second option of collective action, but are far slower in bringing about change. For example, without framing work on the part of librarians and scholars the adoption of social tagging by libraries can take a long time, as this form of indexing may be viewed as unnecessary in comparison to paradigmatic indexing languages. Given enough time and with the popularity of social tagging on non-library websites, libraries may come to accept and adopt social tagging even without the framing work and encouragement of supporters. However, as Tarrow (1994) argues, the realization of the process of change will be delayed. In situations where more immediate change is desired, framing work and advocacy is required. For example, a librarian interested in introducing social tagging to her library's OPAC may propose a tagging trial period to her library's board in order to promote the concept within the institution.

Due to the weight and credence of current cultural practices and understandings, the framing of new movements is often difficult, yet unlikely movements are constructed and can be successful given that movement leaders are able to take advantage of presented opportunities (Tarrow, 1994). In social tagging, for example, librarians can take advantage of technological advances in social software, public's demonstrated interest in non-library sites such as Flickr and LibraryThing, and the existing willingness of taggers to tag. Changes in opportunity should be seized and expanded through framing work and collective

action if they are to be sustained and result in socio-political change. Given the lack of empirical data on motivational factors behind social tagging, it is difficult to discuss common purpose and solidarity amongst taggers. However, though it is true that we are currently not in a position to comment on the reasons why taggers engage in tagging, we can nevertheless attempt to sanction a strong sense of common purpose and solidarity given auspicious circumstances. As discussed in the first chapter of this thesis, librarianship is not a socio-politically neutral profession, and there is no pretense of neutrality in the arguments presented in this thesis. Librarians and scholars in the field of Library and Information Science who are supportive of social tagging have a significant socio-political opportunity presented to them. The technology is available and the crowds are willing. As contended earlier, social movements are formed when political opportunities arise for social actors who lack them. Social tagging is a chance for the public to be active participants in the interpretations and representation of information. This occasion is, in my opinion, a rallying cry par excellence.

Sustaining Collective Action

Social movements require sustained collective action. "The social movements that have left the deepest marks on history have done so because they sustained collective action against better-equipped opponents" (Tarrow, 1994, 6). Though there is a tendency to compare social movements to

contentious episodes such as riots, this analogy is not always accurate. Most riots do not translate into social movements because rioters may or may not have a common purpose and may disband as abruptly as they emerge. The tendency to align social movements with riots may arise from the desire to diminish the sense of purpose of the former by pointing to the capriciousness conjured by the latter. For example, those opposed to social tagging on library OPACs may use this characterization of tagging as a social movement to point to it as an unreliable and short-lived trend. It, therefore, is necessary to emphasize that social movements, by definition, require sustained collective actions.

Movements are sustained both by external forces such as movement organizers and internal forces such as social networks.

The role of movement organizers was discussed in the previous section in relation to the cultivation of a common purpose and solidarity amongst taggers. To the extent that organizers and those involved in framing work are instrumental in bringing about collective action, they also play an important role in its continuation. The second factor in the sustainability of social movements is the social network. Online social networks have considerable power as motivators and enforcers of cooperation (Donath & boyd, 2004). They are analogous to real-life social groups in myriad ways, as by using social networking sites, users are able to create descriptive profiles and invite others (or are invited by others) to connect with them digitally. These connections take many forms: leaving comments on a user's profile (Flickr) , adding another user

to your "watch list" (LibraryThing), "poking" someone or asking them to be your friend (Facebook), etc. The point is that "people are accustomed to thinking of the online world as a social space" (Donath & boyd, 2004, 71). Belonging to social networks online has similar implications as real-life situations: users can display their connections with others in the same way they would if they hosted a party, other members can infer certain information about a user's political leanings, taste in literature, music, food, etc. from their profiles but also from their online network of friends (Donath & boyd, 2004). Similar levels of profile sharing and online networking may be available to taggers on library OPACs. For example, as a tagger on the Vancouver Public Library OPAC, I would be able to create a personal profile, which tells other taggers or browsers information I choose to share with them: my user or real name, books I have borrowed, books I am reading right now, books that I have tagged. Other users would infer a certain level of trust or distrust in my tags from other information that I have provided to them. For example, they may trust tags provided by taggers with similar taste in literature. In this case, as with other manifestations of social signaling, the accuracy of conclusions drawn may be questioned. The more significant point is that users are given the choice to use this socially provided information to remain engaged and to make decisions related to their requirements at any given time.

Online social networks mirror other social networks in some ways, but surpass them in terms of convenience. Using the Internet to keep in touch may

be less personal but it is easier. I would, for example, be far more likely to keep up with my membership in a particular social movement collective if my contributions could be made digitally. It is more manageable and more conducive to long term sustainability if I can participate on my own time, rather than having to make real time commitments to meetings and rallies. The simple fact that tagging is easy is imperative to its success as a sustainable social movement. Furthermore, tagging as a kind of information seeking behaviour, would not be a novel activity: "Humans have for all times sought information in order to support their activities" (Andersen, 2006, 217). The fact that tagging is, to some extent, a manifestation of an everyday human activity – information seeking - adds to its qualification as a sustainable collective action. The already inherent elements within social tagging, such as its utilization of social networks and convenience of use, favour its candidacy as a tool for sustained collective action and social change.

Conclusion

Folksonomies, performed collectively by the members of the public, are contrary to the ethos of traditional indexing languages and a challenge to their preeminence. Whether or not taggers can be described as sharing a common purpose is, as of yet, undetermined. However solidarity - the recognition of a common purpose – can be harnessed by scholars and librarians who are interested in the mobilization of social tagging as a social movement through

framing work and other forms of advocacy. Librarians and other interested parties in LIS are faced with an unprecedented socio-political opportunity: through the utilization of online social networks and given the ease and convenience of tagging, social tagging once introduced, can be effectively sustained on Online Public Access Catalogues of our local libraries. Andersen (2005) argues that knowledge organization systems (of which OPACs are an example) are "the professional tools of librarians. Due to this fact, we should expect that librarians have a lot to say about the roles and doings of these systems in the mediation of society and culture...." Advocacy for social tagging capabilities on library OPACs is a significant step towards counterbalancing the documented lack of critical librarianship in LIS (Andersen, 2005; Andersen & Skouvig 2006). The selection of a socio-politically engaged paradigm for the understanding of social tagging on library OPACS – the specific focus of this thesis and the emphasized area of overlap between social tagging and social movements in Figure 1.1 – is needed to realize the full potential social tagging as a social movement. The following chapter will propose an anarchist – and specifically Kropotkinist – paradigm because by choosing an anarchist paradigm, librarians and LIS scholars engaged in critical librarianship can make certain that social tagging continues to maintain and develop its principal socio-political contribution: the freedom and agency of library patrons to interpret and represent content objects according to their points of view.

Chapter Four

The Structure of an Anarchist Paradigm

There are periods in the life of human society when revolution becomes an imperative necessity, when it proclaims itself as inevitable. New ideas germinate everywhere, seeking to force their way into the light, to find an application in life; everywhere they are opposed by the inertia of those whose interest it is to maintain the old order; they suffocate in the stifling atmosphere of prejudice and traditions.

- Peter Kropotkin (1880, 2002 ed. 35)

Introduction

The future of social tagging in libraries is at best uncertain; at worst, librarians, classificationists, and scholars will reject it as either unworthy of serious consideration or a dangerous idea to be deftly evaded by those guarding the intellectual integrity of traditional indexing practices and, by extension, our discipline. Why would the integrity of Library and Information Science be seen as threatened by public participation in library indexing? Can social tagging be regarded as a new order of order without imposed, authoritative rule or is it fated to be condemned as disorder? Can social tagging add value to the ways in which we currently represent content objects in online public access catalogues of libraries or is it an unacceptable aberration in the long tradition of library indexing? Therein lies the difference between the acceptance and rejection of

social tagging as a Panacean cure or a Pandoran threat, respectively.¹¹ We are at a critical juncture in our understanding of social tagging; the ways in which we choose to frame, study, and discuss public participation in library indexing now will have a direct and significant impact on its future utilization or imminent disregard. In addition, it is not enough to discourage and refrain from direct attack on social tagging, rather we must also ensure that librarians and LIS scholars are actively engaged with ideas such as social tagging – ideas that are of value to the pursuit of critical librarianship. The socio-political potential of social tagging in libraries is far too significant for it to be consigned and relegated to non-library indexing alone. Furthermore, as an issue of considerable socio-political consequence, it is fitting to seek a politically informed paradigm for its consideration and study.

Paradigm - Kuhnian

Author Michael Ondaatje describes storytelling as the process of shining a spotlight on a dark stage. At any given time, the narrator has the power to illuminate specific aspects of the story and to conceal others. There may not come a time when the stage is lit in its entirety and some parts, though present,

¹¹ To borrow from the title of the 17th annual Special Interest Group/Classification Research (SIG/CR) Workshop: "Social Classification: Panacea or Pandora?" presented at the Annual Meeting of the American Society for Information Science and Technology (ASIS&T) in Austin, Texas.

are never revealed.¹² Spotlights and paradigms are both selective narration tools; they guide our attention. Since the 1962 publication of Thomas S. Kuhn's *The Structure of Scientific Revolutions*, it is common to read about paradigm-directed research in the scholarship of conventionally disparate disciplines. Our own field of Library and Information Science has summoned his name and contributions in discussions on the establishment of research frameworks (Ellis, 1998; Hjørland 1998). Here, following a brief overview, I base the paradigm part of the proposed anarchist paradigm on the Kuhnian characterization of the concept. Kuhn describes paradigms as guiding and even determining the directions of research. During periods when scientists are involved in solving the problems of their paradigms, referred to as "normal" science, the values of that particular paradigm shape the scientists' own sense of "reality" and "truth." Any given scientific community, then, operates under a set of well-guarded beliefs and assumptions. These core assumptions are maintained and communicated to future generations through education. Kuhn writes: "because that education is both rigorous and rigid, these answers come to exert a deep hold on the scientific mind" (1962, 5). Furthermore, there are interrelations between the "descriptive and normative dimensions of such communities" (Bernstein, 1983, 78). While descriptive guidelines provide epistemological tools within such communities, normative values have a regulative impact on scientific activity, research, and inquiry. While involved in research, or as Kuhn

¹² This description was given by Ondaatje during a live interview with Hal Wake at Christ Church Cathedral in Vancouver, British Columbia on May 3, 2007.

sees it the "strenuous attempt to force nature into the conceptual boxes supplied by professional education" (1962, 5), scientists doing "normal" science tend to overlook small anomalies. Nevertheless, there comes a time when particular anomalies can no longer be ignored because they undermine the core suppositions of the paradigm. They become problematic enough that a change in assumptions becomes necessary. This change or "shift in professional commitments" (1962, 6) ushers a paradigm shift. Once the shift has taken place, the path to a new normal science begins again.

The paradigmatic execution of science does not concern Kuhn. In fact, "the successive transition from one paradigm to another via revolution is the usual developmental pattern of mature science" (Kuhn, 1962, 12). Paradigms are useful to scientific inquiry because they allow scientists to agree on fundamental assumptions of their fields, making both pure and applied science possible. They provide frameworks within which to ask questions and seek answers and provide a myriad of mop-up work, all within the paradigmatic framework. Paradigms are of great worth to scientific inquiry because as Kuhn writes: "no natural history can be interpreted in the absence of at least some implicit body of intertwined and methodological belief that permits selection, evaluation, and criticism" (1962, 17). Paradigms help shape scientists' questions, methods, and answers as without them "all facts that could possibly pertain to the development of a given science are likely to seem relevant" (Kuhn, 1962, 15). However, operating within a paradigm prevents researchers from being

cognizant of the whole picture – the “truth”. Given that there is no human alternative to operating within paradigms, the “truth” remains at large.

Though Kuhn’s contributions are about the sciences specifically, they are invaluable to other disciplines of study. Since 1962, Kuhn’s work has problematized claims of neutrality in research frameworks writ large. It is commonly understood that through paradigms, research becomes value-laden. By selecting a particular paradigm, researchers choose to be taught, learn, and espouse certain viewpoints and disregard others; it involves valuing one explanation over another. Traditionally, the physical sciences were understood to provide a God’s eye view of the world and the social sciences were seen as striving to get as close to this position as possible. With the foundations, assumptions, and practices of the physical sciences under scrutiny and spotlight, the biases inherent in the social sciences are even further pronounced.

For our stated purpose of the study of social tagging, what would this proposed anarchist paradigm look like? As Chomsky writes, there have been “many styles of anarchist thought and action. It would be hopeless to try to encompass all of these conflicting tendencies in some general theory ideology” (1970, vii). A singular theory of anarchism does not exist. That being said, the ethos of the anarchist movement, in general, together with that of social tagging, in its current form, demands further exploration. For what brings all threads of anarchist thought together is their denunciation of external authority (Ward, 2004, 3). Not only are there different anarchist schools of thought, but also each

thread, each concept, and each movement within the movement has been “reinvented or rediscovered continually” (Ward, 2004, 31). This evolution is a sign of relevance, allowing for its continual application without anachronistic reservations. Mark Leier writes:

The anarchist critique of the state, of capital, of power, is a compelling one, and the lesson of anarchism is constantly relearned through experience: people who do not benefit from the system will organize to create alternatives (2006, xiv)

I believe that the above quote highlights anarchism both in content and form. Not only are critiques of state, capital, and power the contents of anarchism, but also the ideology is expressly carried out by people who ascribe to anarchism's critical content and who, not benefiting from the system, organize to create alternatives for themselves and others. Using anarchism - both content and form - as a point of departure, it is important to make a parallel distinction in its application to social tagging. While I see social tagging as anarchistic in its inherent rejection of authority and the way in which it is carried out on library OPACs, the choice of paradigm does not necessarily extend to taggers' political inclinations. The critical point in social tagging, the point that makes it anarchistic, is that tags are not monitored or controlled by an external, imposed authority. Taggers are free to tag content as they see fit even if their tags are ideologically opposed to other taggers' contributions or to anarchism. Traditional indexing languages are generally speaking racist, sexist, and classist

(Olson, 2002) and as such, it is likely that tags contributed by patrons on library OPACs will generate folksonomies that are politically and ideologically opposed to these prejudices, however, this prediction is not a necessary part of the consideration of social tagging as an anarchistic social movement. Regardless of the ideologies represented by traditional indexing languages, social tagging can work to undermine their authority. The strength of social tagging does not lie with the content of the tags per se but rather with the fact that it is carried out from the bottom upwards by means of patron contributions and not from the top downwards by means of authoritative rule. What is important is that the tags provide alternative access points different from traditional indexing terms and allow space for viewpoints that are, generally speaking, unrepresented. The lack of emphasis placed on the content of tags and folksonomies may seem contradictory given the contentual critique of traditional indexing languages presented in this thesis. This inconsistency can, however, be addressed given the way in which each act of indexing is carried out. Consider, for example, a situation where a group of ten friends are ordering dinner at a restaurant. If one friend assumes the authority of ordering the same dish for everyone present, then the kind (content) of the food being ordered is significant and open for critique and discussion. Alternatively, if each person were given the opportunity to choose and order his or her own meal, then a critique of each individual dish would be nonsensical. Although the most significant differentiating factor

remains the authoritative vs. non-authoritative form of ordering, the former allows for a critique of content, while the latter does not.

Paradigm - Anarchist - Kropotkinist

In the previous chapter, using Sidney Tarrow's four basic properties of social movements - collective challenge, common purpose, solidarity, and sustaining collective action - from his 1994 text, *Power in Movement: Social Movements, Collective Action and Politics*, I argued for the conceptualization of social tagging as a social movement. Here, I propose that not only is social tagging an anarchist social movement by nature, but that it can remain so by nurture. The two positions - first: social tagging is an anarchist social movement and second: it can continue to function as such - are related but distinct. Currently, social tagging is formulated and conducted without the interference of authoritative, central governance such as the Library of Congress and, as such, it is an anarchist undertaking both in theory and praxis. In fact, social tagging is proof that "organization without government [is] both possible and desirable" (Ward, 2004, 1).¹³ For future considerations, the use of an

¹³ In *Anarchism: A Very Short Introduction*, Colin Ward (2004) describes anarchist Pierre-Joseph Proudhon's position: "Proudhon argued that organization without government was both possible and desirable." I use this quote about anarchism in relation to social tagging to highlight that, interestingly, I have found descriptions of anarchism and social tagging to echo each other in the literature of their respective fields. In response to common concerns about chaotic and ill-intentioned tagging practices on social tagging sites, Winget writes about taggers' motivations and behaviour on Flickr: "the strength of the social relationships of players within the system provides a mechanism for ambient and informal policies and procedures, which although not official or strict, perform the function of enforcing appropriate tagging behavior" (2006, 15).

anarchist paradigm would have implications regarding both scholarly research and practical implementations of social tagging in library settings. As far as social tagging is an anarchist practice, it is useful to understand it as such, but for reasons beyond practicality – reasons of ideology and paradigm choice – it is further recommended that we do so. By choosing an anarchist paradigm for the study of social tagging, librarians and LIS scholars can make certain that social tagging continues to be maintained, developed, and studied as an anarchist social movement. To summarize, the fact that social tagging, in its current form, has anarchist characteristics does not necessarily justify the adoption of an anarchist paradigm for its future study, rather an anarchist paradigm is suggested because it will work to preserve the already existing advantages of social tagging discussed in the first chapter – advantages such as inclusivity and flexibility. As a guiding paradigm for research, anarchism would preserve and further advance social tagging as a socio-political tool and ensure that the interests of taggers are considered at every stage of development and implementation. An anarchist paradigm of social tagging, for example, might preclude the introduction of tag lists, which would either recommend or require taggers to choose from pre-approved tags. The authority assumed by people or committees responsible for creating controlled and acceptable tag lists would be rejected on anarchist grounds and the ethos of choice and voluntary participation emphasized. I believe that librarians and scholars in the field of Library and Information Science would do well to look outside the traditional boundaries of

our discipline for more robust conceptualizations of this relatively new phenomenon; I propose anarchism as a viable choice.

In reading discussions about social tagging, it is increasingly difficult to overlook the distinct and powerful ideological confluence between this emergent public action and the theories of anarchism. Not only is social tagging anarchistic, but also “anarchy is a theory of organization” (Ward & Goodway, 2003, 62) worthy of our collective and unremitting attention. Mark Leier writes that the word *anarchism* itself “has long been separated from its real meaning of ‘rule by no one’” (2006, x). From the Greek *anarkhia*, anarchism’s literal meaning of “without a ruler” or “rule by no one” is thus employed here. Though this definition is often clearly stated in anarchist texts, there is also the need to clarify and defend anarchism against its more popular and misleading understandings: a socio-political ideology espousing violence and chaotic lawlessness (Guerin, 1970; Leier, 2006). This argument is well made by these authors and will not be reiterated here.¹⁴ To expand beyond the literal meaning of the word, Peter Kropotkin’s 1905 definition of anarchism will be adopted for use throughout this thesis. In the eleventh edition of the *Encyclopaedia Britannica*, Kropotkin wrote that anarchism is:

¹⁴ In Chapter 3, the inclination of a few to inaccurately equate social movements with riots was discussed. The point made was that detractors, who wish to discount the significance of social movements, rely on its occasional correlation with incidents of rioting to make a causal and blanket statement: all social movements involve rioting. A similar fallacy is at play in linking violence with anarchism; though violence and anarchist actions sometimes coincide, violence is not a defining characteristic of anarchism.

The name given to a principle or theory of life and conduct under which society is conceived without government - harmony in such a society being obtained, not by submission to law, or by obedience to any authority, but by free agreements concluded between the various groups, territorial and professional, freely constituted for the sake of production and consumption, as also for the satisfaction of the infinite variety of needs and aspirations of a civilised being (In Ward & Goodway, 2003, 25, spelling original).

For our purposes here, anarchist Peter Kropotkin's writings are used as illustrative of anarchist philosophy writ large, for the existence of varied schools of thought within anarchism, precludes its discussion as one, unified whole. It is inevitable, therefore, that what will be said here will fall short of a satisfactory treatment of anarchism as a whole. However, by concentrating on one of anarchism's most significant theorists, something of value can nevertheless be contributed. In fact, Kropotkin's contributions to anarchist thought are broad enough to include most anarchist tenets, even when they differ on small or specific points. Far from detracting from its usefulness, anarchism's many-thronged philosophy allows the theory malleability and relevance to common and practical situations. Colin Ward writes that Kropotkin, "the most widely read on a global scale of all anarchist authors, linked anarchism both with subsequent ideas of social ecology and with everyday experiences" (2004, 8). Ward further (2004, 31) argues that even though there exists a great deal of reinvention and evolution, it is possible still to talk of an anarchist theory of

organization as consisting of the following four characteristics: voluntary, functional, temporary, and small; these four points will be revisited later in this chapter.

Although Kropotkin devoted much of his life to science, the most significant of his contributions were to the anarchist cause. As an anarchist and a revolutionary, Kropotkin is known as the father of anarchist-communism:

Kropotkin argued that anarchism and communism combined two currents of thought – radical liberalism, which placed an emphasis on individual freedom and the negation of state (anarchism), and liberal socialism, which, stridently anticapitalist, opposed both private property and the wage system (communism) (Morris, 2004, 22, parentheses original).

Broadly speaking, where the central issues of the anarchist-communism are property, land, natural resources and means of production (Ward, 2004), this thesis is concerned with the organization of knowledge as represented by indexing, and as far as naming can be seen as an act of ownership, knowledge as property. To some extent, then, social tagging on library OPACs is an act of claiming communal rights to the knowledge contained within the library and its content objects; folksonomies are created by voluntary contribution and are used freely by patrons as they see fit. Critical librarianship - the position of being cognizant and involved in the social and political responsibilities inherent within the profession – can be informed by Kropotkin's contributions because anarchist-communism is, first and foremost, preoccupied with action and not theory. Of

course, the tenets have to be communicated, and they often were through propagandist writings, but Kropotkin wrote with the intention of mobilization (Cahm, 1989). Describing Kropotkin's anarchist-communism, George Woodcock writes:

When Kropotkin says that everything must return to the community, he does not mean this in a vague and general way; he means specifically that it must be taken over by the *commune*. This is a term familiar enough to the French, whom he was primarily addressing; it describes the local unit of administration that is nearest to the people and their concerns, but it also carries revolutionary connotations of the Paris communes of 1793 and 1871 (2004, 167-168, emphasis original).

Similarly, social tagging returns the holdings of libraries to their patrons both in a figurative and literal sense. By tagging the content objects, the patrons reclaim them symbolically and by actually finding and accessing the materials, they are given literal, communal rights to libraries' holdings. For Kropotkin, communal associations were formed voluntarily, uniting groups of individuals concerned with all levels of social interests and functionality. In practice, everyone would contribute voluntarily what they could, and take freely what they needed.

Moreover, unions between the communes produce "a network of cooperation that replaces the state," (Woodcock, 2004, 168) for all central authority is unequivocally opposed. Kropotkin argued "that a further advance in social life does not lie in the direction of a further concentration of power and regulative functions in the hands of a governing body, but in the direction of

decentralization, both territorial and functional... (1887, 2002 ed., 51)."

Folksonomies are a consummate example of decentralized, functional, and cooperatively produced indexing languages. They can be created and continually adjusted to serve the needs of different communities of library users at any given time.

Ward (2004, 31) argues that anarchist organizations are characteristically voluntary, functional, temporary, and small. Voluntary engagement is seen as necessary by Kropotkin (1887, 2002 ed.), and is reiterated by Ward: "There is no point in advocating individual freedom and responsibility if we go on to set up organizations in which membership is mandatory..." (2004, 31). Social tagging is obviously a voluntary undertaking. A 2006 survey by PEW Internet and American Life Project found that 28% of people who use the Internet have, on their own accord, tagged online content (Rainie, 2007). In fact, groups of users have embraced tagging - voluntarily - at a rate that has demanded the attention of technology and Internet researchers: "there are even reports that some web users now have made tagging sites their home page, making these sites at least nominal competitors to big media companies that hope users will start their online experiences on their main page" (Rainie, 2007).

Ward advocates a functional anarchist theory of organization. He writes: "there is a tendency for bodies to continue to exist after having outlived their functions" (2004, 31). We would be hard pressed to imagine a situation where taggers are involved in tagging online content even when their efforts serve no

purpose. Ward's second criteria is closely linked with his first, as voluntary efforts would not be made if the volunteers did not gain something from their participation, either individually or as a group. Of course, the functionality of tagging is varied across different social tagging sites and for different individuals and communities, but for taggers to continue tagging, the pursuit must have a purpose. Even in situations as specific as library OPACs, not all taggers would tag with the same intentions, but they tag with intentions nevertheless. From an indexing point of view, social tagging can be offered as a solution to archaic and inflexible indexing terms in traditional languages. Social tagging lets libraries stay current and relevant; tags can meet the changing demands of language and culture more efficiently than traditional indexing terms, thereby making social tagging a useful and functional activity.

Anarchist organizations are temporary; social tagging is, by definition, transient. Tags are not maintained and tolerated simply because they have been used before. Ward (2004) emphasizes the temporary nature of anarchist organizations to warn against the acceptance of permanence for its own sake. Again, his point is closely related to the one mentioned previously, because organizations should be abandoned once they cease to serve their stated functions. Tags, folksonomies – the aggregation of tags – and taggers are ever changing. They are responsive to change, and easily removed. Taggers can remove their tags as well as themselves easily and quickly, thereby changing the makeup of their respective folksonomies. Furthermore, social tagging as a whole

does not require large financial or infrastructural commitments on the part of libraries in question, and may be easily abandoned if and when it no longer serves the community. The opposite is true in case of traditional library indexing. The time and money invested in the creation and maintenance of traditional indexing languages is often regarded as a reason for its continued use (Dykstra, 1978). Once organizations are maintained for reasons of tradition or financial investment, functionality is not valued as highly or questioned as regularly as one would expect in dynamic institutions such as libraries – institutions that hope to serve their communities in the best and most efficient ways as possible.

Social tagging, as implemented on library OPACs, is a small and communal undertaking. The folksonomies that are created reflect the tags contributed by the patrons of that particular library system. Especially in relation to traditional indexing practices and controlled vocabularies whose aim is often universality, social tagging can be more immediately and culturally relevant. Where folksonomies reflect the culture of a particular community, members of that community are better able to interact with the information that is presented to them; that is they are more likely to find what they are looking for using search terms and keywords that are culturally current, relevant and appropriate. At the same time, social tagging is not a bureaucratic process. Individuals can contribute tags directly and without interference from other members of the library community, making the process more functional,

immediate, and relevant. By valuing the needs of the users over institutional bureaucracy, social tagging may be seen as tool that encourages patron participation and interest in libraries. The following example of an information seeking incident at the Vancouver Public Library demonstrates that the system of representation currently provided by traditional indexing in our libraries may work to impede the information literacy – the ability to seek, find, and evaluate information - of certain groups of people in significant ways.

During a reference interview, I assisted a patron who was looking for the book *Where People Feast: An Indigenous People's Cookbook* by Dolly and Annie Watts. The patron had forgotten the title of the book, but had attempted to use the subject browse function of VPL's online public access catalogue. Unfortunately and to her surprise, the cookbook was listed with the following subjects:

- Indian cookery – British Columbia
- Indian cookery.
- Cookery – British Columbia.

The book, which was catalogued on April 30, 2007, was not found because the patron did not consider "Indian cookery" as an indexing term for the cookbook she was searching for.¹⁵ It is true that no content object will ever be represented to everyone's satisfaction and it is true that anarchism means many different things to many people, but there is something critical at stake: in the year 2007, a

¹⁵ As an aside, books on East Indian cooking is listed under:

- Cookery, Indic [*sic*].

patron at the Vancouver Public Library cannot find the cookbook *Where People Feast: An Indigenous People's Cookbook* because she searched under the subject headings "native cookery" and "aboriginal cookery" instead of "Indian cookery". In social tagging we have at our disposal a technology that can provide other access points to content objects and help patrons who cannot decode our current indexing languages to find their books. Neither she, nor I, would have attached the tag "Indian cookery" to the book in question. If it is our goal to help patrons find the information they are looking for, then librarians and LIS scholars must carefully consider this opportunity. Biases inherent within traditional indexing languages have been previously discussed. The example provided here highlights an instance where the indexing language used at the Vancouver Public Library had a direct impact on the ability of a patron to find a book. As critical librarians, we need an evaluative paradigm to assist us in recognizing, formulating, and presenting additional access points than currently offered by traditional indexing languages.

Anarchism can help us frame, understand and discuss the necessity and value of public's participation in library indexing. Contrary to the aforementioned threat to our discipline's intellectual integrity, an anarchist analysis of social tagging can help librarians advance the information literacy of our patrons. There is an interesting parallel between two particular critiques of the two movements – social tagging and anarchism – and the structure of the response provided by their proponents. As discussed in Chapter 2, though never

declared as a purpose, a low degree of precision and recall in retrieval has been viewed as a shortcoming of social tagging and a point in favour of traditional library indexing. This criticism, better directed at systems that do list high degree of precision and recall in retrieval as one of their purposes, highlights the system's failure to provide this functionality as demonstrated by the patron's search for *Where People Feast: An Indigenous People's Cookbook*. Similarly, anarchists have been criticized for their proclivities towards chaos and disorder when in fact, anarchists support order as long it is sustained through "collaboration, deliberation, consensus, and common coordination" (Vaidhyathan, 2004, 4). In the abovementioned definition of anarchism given by Kropotkin in 1905, he emphasizes free and harmonious activities "constituted for the sake of production and consumption". Folksonomies are not universal and do not aspire towards "truth" in indexing, rather they provide a functional solution to irrelevant, albeit consistent indexing; they are pragmatic tools that are created and used for the purposes of individual and communal naming and access to information.

Inevitably, questions of noncompliance arise. Detractors of social tagging have criticized and questioned taggers who do not observe common tagging conventions – taggers who deliberately engage in "sloppy" tagging practices (Lawley, 2005; Mejias, 2005). Anarchism offers an interesting answer on this inquiry. Kropotkin argues that there are two kinds of agreements. The first is the contract, which is agreed upon freely; given other, equally viable choices, the

parties in question have chosen this particular arrangement. The second is an "enforced agreement, imposed by one party upon the other, and accepted by latter from sheer necessity; in fact, it is no agreement at all; it is a mere submission to necessity" (Kropotkin, 1887, 2002 ed., 69). Kropotkin makes this distinction, as he does not "see the necessity of force for enforcing agreements freely entered upon" (Kropotkin, 1887, 2002 ed., 69). When taggers engage in social tagging, they do so out of their own volition and desire to reach the level of functionality that they are looking for. If common tagging practices can help them achieve their purpose, then it would serve them to observe these conventions and they would do so voluntarily. For example, if it is a tagger's intention to help other women in her community by highlighting the local library's holdings on women's health, then it would be counterproductive for this tagger to tag the books "womyn's health" as there is a good chance that other patrons will not use this unconventional spelling of the word to conduct their search.

The next point of contention is the view that without external authoritative enforcement, long-term contributions to society are not possible; in social tagging, people are unlikely to continue participating of their own accord. This Kropotkin sees as an essential ideological disagreement concerning human nature that is not easily reconciled. He believes that with humans, "work is a habit, and idleness an artificial growth" (Kropotkin, 1887, 2002 ed., 70). Kropotkin argues that it is overwork and work under conditions of uncertainty

and unfair remuneration that is objectionable and not work per se. With freely entered agreements and work arrangements, there would be decreased incidents of anti-social and anti-communal behaviours because “freedom, fraternity, and the practice of human solidarity is the only way of dealing, humanely, with antisocial behaviour” (Morris, 2004, 23) both before and after its occurrence. Given the choice, people would choose dignified participation over nonparticipation in work and society. Thus far, the contribution of taggers to various social tagging websites illustrates this anarchist principle: they have shown they are prepared to take up the work. Furthermore, Kropotkin’s ideological position regarding workers’ willingness to participate freely may be utilized in social tagging research. The above discussion is of particular interest to future research in social tagging because, as discussed in Chapter 2, questions regarding tagger motivation are yet to be asked and systematically studied. With no “central authority imposing a top-down view and every voice gain[ing] its space” (Quintarelli, 2005), are taggers motivated by freedom with which social tagging sites currently operate? Are taggers spending their own time tagging books on LibraryThing, photos on Flickr, and websites on Del.icio.us exactly because “free agreements need not be enforced” (Kropotkin, 1887, 2002 ed., 70)? Are taggers devoting their own time to seemingly laborious tasks because they are cognizant of the benefits – the greater good – of sharing both the efforts and the benefits of social tagging? The answers to these questions are yet to be determined, but the ways in which researchers choose to frame and ask these

questions are inevitably influenced by their choice of paradigm. For example, researchers operating within an anarchist paradigm would be more likely to study non-traditional library indexing and advocate a policy of non-interference in social tagging environments; they might for example, be against the implementation of pre-approved tag lists. Social tagging, as an area of research, is particularly well suited to the anarchist agenda; after all, in Kropotkin's own words, anarchism originated "from the demands of practical life" (1887, 2002 ed. 154). In fact, social tagging exists as a theoretical construct because of public participation - because people tagged. As argued throughout this thesis, information literacy - the ability to seek, find, and evaluate information - is a practical skill that librarians must foster in the patrons of their libraries. Thus far, traditional library indexing has not been successful in adequately representing content objects contained within our libraries, leading to decreased rates of information literacy. Using the anarchist paradigm, social tagging may be offered as a practical - albeit imperfect - solution to central and authoritative representation and misrepresentation of content objects in library OPACs that limit community participation and use of library resources.

The choice of anarchism as a paradigm for the study of social tagging on the open Web is particularly apt; interestingly the Internet has had a history of being theorized as an agent of anarchy (Graham, 1999; Van Aelst & Walgrave, 2004). Of course, here again, one must sift through the misuse of the word anarchy with added qualifiers such as "good" and "bad" for purposes of

distinction. For example Graham (1999) uses "good anarchy" to refer to the use of the Internet as an instrument of public access and participation and "bad anarchy" to refer to the Internet as a medium of misinformation and a place of scant moral policing. It is his use of "good anarchy" that is of interest here, and is henceforth referred to as anarchy. Graham (1999) argues that internationalism and populism are two important factors contributing to the Internet's utilization as an agent of individual participation and creation of a space which functions independently from and, in some cases, despite the state. Graham's (1999) internationalism goes beyond the idea of connecting people across borders to refer to a profound disregard for national and international boundaries. Notwithstanding governmental attempts to regulate and control its use, the "Internet is wholly *indifferent* to international boundaries" (Graham, 1999, 86, emphasis original). Therefore, communities – both large and small – can form using the Internet regardless of individuals' physical location.

Similarly, the populism of the Internet goes beyond the observation that the Internet is simply popular. Graham (1999) is referring here to the fact that access to the Internet is increasingly available to those with limited financial and technical capabilities.¹⁶ Not only has owning computers become more commonplace, but also places such as Internet cafes and libraries offer the public more affordable access on a limited time basis. Furthermore, personal laptop computers and free wireless services offered on university campuses, coffee

¹⁶ This is especially true in the "first world".

shops, and other venues are adding to the Internet's accessibility and populism. The Internet is also progressively more user-friendly. A considerable amount of technical know-how is not required to use and contribute to it (specially since the advent of Web 2.0 technologies) and places such as public libraries offer introductory skills workshops to their patrons at little or no cost. In short, given its functionality beyond international boundaries and ease of use and access, the Internet has been, and will in all likelihood continue to be, a technological ally of the anarchist movement. Certain utilizations of this technology are, of course, more pertinent than others; social tagging is one such application. With the expansion of social media on the Internet, we have the tools we need for individual participation in activities such as library indexing – activities that were previously inaccessible and kept separate from the public domain.

Conclusion

At the 2007 Supernova Conference¹⁷ in San Francisco, Clay Shirky spoke of a 1995 meeting about programming languages where a group of C++ engineers question the level of commercial support available to Perl users. Perl, an open source programming language, does not have commercial, contracted support. Instead, Perl users utilize free community-based online platforms where they post questions and receive answers and support from other users. To demonstrate their point, the Perl users at this meeting posted a question on one

¹⁷ Supernova is an annual conference on technology, decentralization and connectivity organized by Kevin Werbach and The Wharton School.

of the support websites and received an answer to their inquiry by the end of the meeting. Shirky says that even given this evidence, the C++ engineers were not convinced, and noted: "they didn't care that they had seen it work in practice because they already knew it couldn't work in theory."¹⁸ Today, that same support website is still operational and fully functional. Participants diagnose problems, offer solutions, and even write code for each other. "No contracts are written. No money changes hands. The work goes on."¹⁹ People who care about the existence and longevity of an idea will contribute to it - freely. Likewise, library indexing through bottom up patron participation is realized through social tagging because taggers tag. The introduction of social tagging in libraries compels us to recognize and re-examine our assumptions about indexing, critical librarianship and information literacy and also to ask fundamental questions about the role of cooperation and authority in human society; questioning and opposing the status quo is no small aspiration and no small accomplishment.

¹⁸ <http://www.youtube.com/watch?v=Xe1TZaElTAs>

¹⁹ Ibid.

Chapter Five

Now We Can Do Big Things For Love: An Epilogue

With love alone you can get a birthday party together, add coordinating tools and you can write an operating system. In the past, we could do little things for love, but big things - big things required money. Now, we can do big things for love.

- Clay Shirky (2007)

Debates concerning the advent and proliferation of Web 2.0 technologies make manifest our most candid and deep-rooted presumptions about human society. Inadvertently or otherwise, they divulge trust or distrust in our ability to bring about change; they reveal our faith in humanity. They strike a chord so close to our hearts that our emotions run high and we speak of love, as Clay Shirky does, in order to emphasize just how deeply invested we are in this phenomenon. Librarians who are actively involved in the social and political responsibilities inherent within their profession ought not shy away from the language, the politics, and the discussions. In a debate about public collaboration in library indexing, we cannot choose to ignore what people are saying. Every tag, every article, every user-generated comment is, by definition, of value. Some may be inclined to dismiss this discussion because it is indeed daunting to sift through tags, blog entries, podcasts, etc. Others welcome it as a harbinger of anarchy and collaboration heralding the end of authoritative control

in domains previously inaccessible by the public. Most sit somewhere in between, listening still to arguments, discussions and verdicts while trying to better understand user-generated content on the open Web and its role in their lives.

On July 18, 2007, *The Wall Street Journal Online* published an exchange between Andrew Keen, the author of *The Cult of the Amateur: How Today's Internet Is Killing Our Culture* and one of Web 2.0's most vocal critics, and David Weinberger, the author of *Everything is Miscellaneous: The Power of the New Digital Disorder*. The style of the discussion is forthright and informal: no punches are pulled and assertions are made boldly and without sufficient attempts at corroboration and case making. Nevertheless, *Keen vs. Weinberger* is representative of the ways in which we - on blogs and at dinner tables - discuss collaborative technologies; it reveals what is in fact at stake when we debate the worth of activities such as social tagging. To illustrate his points, Keen sets up a dichotomy: Disney's *Cinderella* vs. Kafka's *Metamorphosis*. He argues that collaborative technologies have not contributed something of great value; they have not empowered us as Cinderella's glass slippers did, but what they have done instead is doomed us to "stare at our hideous selves in the mirror of Web 2.0." His emphasis on the Kafkaesque elements of Web 2.0 reverberates throughout the entire piece: the aggregation of user-generated content is grotesque, dangerous, unfathomable, and horrifically surreal. We, the taggers, bloggers, and contributors, are the architects of Keen's nightmare. Web 2.0 is

"enabling anyone to publish anything on the Internet." We have "forgotten how to listen, how to read, how to watch." We are jeopardizing the future of broadcasting, music and publishing industries. We do not know the value of "truth" and have lost "interest in the objectivity of mainstream media." Without the accountability and authority of experts "everything becomes miscellaneous. And miscellany is a euphemism for anarchy." In Keen's view, instead of valuing public participation we should seek "arbiters of good taste and critical judgment", which he associates with traditional media outlets. "Citizen media" or Web 2.0 has sacrificed "the impartiality of the authoritative, accountable expert" replacing it instead with the "anonymous amateur."

After reading and watching Mr. Keen's many contributions to the Web 2.0 debate I, like Gregor Samsa, have a distinct feeling that I have awoken from "uneasy dreams" and found myself "transformed into a gigantic insect" (Kafka, 1952, 19). We are indeed dealing in absurdities regardless of whom or what we analogize as Kafka's cockroach. Keen holds that the media is objective, the public has little of value to contribute to our own intellectual and cultural domains, such as they are represented on the open Web, and our priorities should lie with keeping traditional media alive and prosperous. David Weinberger, his opponent in this debate, disagrees. Weinberger argues that as with other information sources in our lives, it is up to us to determine the quality and source of the information we are consuming in accordance with our needs - pragmatic, intellectual, aesthetic or otherwise. The Web, Weinberger writes, is

"far better understood as providing more of everything: More slander, more honor. More porn, more love. More ideas, more distraction. More lies, more truth. More experts, more professionals. The Web is abundance, while the old media are premised - in their model of knowledge as well as their economics - on scarcity." The open Web generally, and user-generated content specifically, help us better understand a world "richer and more interesting than the constrained resources of the traditional media let on." They allow space for voices and contributions from people who, customarily speaking, do not have opportunities or outlets for participation as they "would not, could not, or did not make it through the traditional credentialing and publishing systems in the areas they're writing about." Public involvement on YouTube, Flickr, Blogger, and on library OPACs has the ability to generate content that is richer and more "fruitful" and "stimulating" than the contributions of authorities, professionals, or experts alone.

The disagreements between Keen and Weinberger are indicative of larger conversations about user-generated content. Is Web 2.0 "flushing away valuable culture" or is it "our culture's hope?" I am hopeful. Social tagging, a social movement against the authority of traditional library indexing, provides alternative access points to the content objects within libraries and in doing so contributes positively to the information literacy of patrons. In this thesis, I have argued in favour of adopting an anarchist paradigm for the study of social tagging because anarchism would preserve and further advance social tagging as

a socio-political tool and ensure that the most critical characteristics of tagging - inclusivity and flexibility - are considered at every stage of development and implementation. In future research, it is vital to engage taggers and other Web 2.0 collaborators in conversations about their involvement. User-generated content on the open Web has reached critical mass. The incentives and motivations behind this grand partaking would inform future theoretical as well as practical considerations: perhaps they do it for love.

Bibliography

- Adams, C. J. (1990). *The sexual politics of meat: A feminist-vegetarian critical theory*. New York: Continuum.
- Allen, R. (Ed.). (1999). *Pocket Fowler's modern English usage*. New York: Oxford University Press. Retrieved May 21, 2007 from Oxford Reference Online. <http://www.oxfordreference.com/views/ENTRY.html?subview=Main&entry=t30.e3139>
- Andersen, J. (2005). Information criticism where is it? *Progressive Librarian*, 25, 12-22. Retrieved June 11, 2007 from http://libr.org/pl/25_Andersen.html
- Andersen, J. (2006). The public sphere and discursive activities: information literacy as sociopolitical skills. *Journal of Documentation*, 62, 2, pp. 213-228.
- Andersen, J. & Skouvig, L. (2006). Knowledge organization: A sociohistorical analysis and critique. *Library Quarterly*, 76, 300-322.
- Anderson, C. (2006). *The long tail: why the future of business is selling less of more*. New York: Hyperion
- ANSI/NISO Z39.19-2005. Guidelines for the construction, format, and management of monolingual vocabularies. Retrieved May 21, 2007 from http://www.niso.org/standards/standard_detail.cfm?std_id=814
- Bernstein, R. (1983). *Beyond objectivism and relativism*. Philadelphia: University of Pennsylvania Press.
- Berman, S. (1984). Out of the kitchen – but not into the catalogue. *Technical Services Quarterly*, 2, 167-171.
- Blood, R. (2005). Untitled blog entry. Retrieved April 20, 2007 from <http://www.rebeccablood.net/archive/2005/01.html#11technorati>
- Bruce, H., Jones, W. & Dumais, S. (2004). Information behaviour that keeps found things found. *Information Research*, 10, 1, paper 207.
- Cahm, C. (1989). *Kropotkin and the rise of revolutionary anarchism 1872-1886*. New York: Cambridge University Press.
- Canadian Library Association (n.d.). Mission, values & operating principles. Retrieved April 25, 2007 from <http://www.cla.ca/about/mission.htm>

- Chomsky, N. (1970). "Introduction". In D. Guerin (Author). *Anarchism: From theory to practice*. New York: Monthly Review Press.
- Chomsky, N. (1991). Economic roundtable. In M. Albert & R. Hahnel (Eds.), *Looking forward: participatory economics for the twenty first century*. Boston: South End Press.
- Ciborra, C. (2004). Encountering information systems as a phenomenon. In C. Avgerou, C. Ciborra & F. Land (Eds.), *The social study of information and communication technology*. New York: Oxford University Press.
- Delgado, R. & Stefancic, J. (1989). Why do we tell the same stories?: Law reform, critical librarianship, and the triple helix dilemma. *Stanford Law Review*, 42, 207-225.
- Digital divide: What it is and why does it matters. (n.d.). Retrieved April 20, 2007 from <http://www.digitaldivide.org/dd/digitaldivide.html>
- Donath, J. & boyd, d. (2004). Public displays of connection. *BT Technology Journal*, 22, 71-82.
- Dykstra, M. (1978). The lion that squeaked. *Library Journal*, September, 1570-1572
- Ellis, D. (1998). Paradigms and research traditions in information retrieval research. *Information Services and Use*, 18, 225-241.
- Foskett, A. C. (1971). Misogynists all: A study of critical classification. *Library Resources and Technical Services*, 15(2), 117-121.
- Good, B. & Tennis, J. (2007). Speciating information organization frameworks using framework analysis. In press.
- Graham, G. (1999). *The Internet: A philosophical inquiry*. New York: Routledge.
- Guerin, D. (1970). *Anarchism: From theory to practice*. New York: Monthly Review Press.
- Guy, M., & Tonkin, E. (2006). Folksonomies: tidying up tags? *D-Lib Magazine*, 12, 1. Retrieved March 10, 2007 from <http://www.dlib.org/dlib/january06/guy/01guy.html>
- Hacking, I. (1999). *The social construction of what?* Cambridge: Harvard University Press.

- Hjørland, B. (1998). Theory and metatheory of information: A new interpretations. *Journal of Documentation*, 54, 606-621.
- Kafka, F. (1952). *Selected Stories of Franz Kafka*. New York: Random House.
- Keen vs. Weinberger. (July 18, 2007) *Wall Street Journal Online*. Retrieved July 19, 2007 from <http://online.wsj.com/article/SB118460229729267677.html>
- Kome, S. (2005). Hierarchical subject relationships in folksonomies. Retrieved May 6, 2007 from <http://etd.ils.unc.edu/dspace/handle/1901/238>
- Kropotkin, P. (2002 ed.). *Anarchism: A collection of revolutionary writings*. New York: Dover Publications.
- Kropotkin, P. (2006 ed.). *Mutual aid: A factor of evolution*. New York: Dover Publications.
- Kroski, E. (2005). The hive mind: Folksonomies and user-based tagging. Retrieved April 2, 2007 from <http://infotangle.blogsome.com/2005/12/07/the-hive-mind-folksonomies-and-user-based-tagging/>
- Kuhn, T. (1962). *The structure of scientific revolutions*. Chicago: The University of Chicago Press.
- Lawley, L. (2005). Social consequences of social tagging. Retrieved March 29, 2007 from http://many.corante.com/archives/2005/01/20/social_consequences_of_social_tagging.php
- Leier, M. (2006). *Bakunin: The Creative Passion*. New York: St. Martin's Press.
- Lin, X., Beaudoin, J., Bui, Y. & Dasai, K. (2006). Exploring characteristics of social classification. Retrieved March 12, 2007 from <http://dlist.sir.arizona.edu/1790/>
- Mai, J. (1999). A postmodern theory of knowledge organization. *Knowledge: creation, organization and use: proceedings of the ASIS Annual Meeting*. Medford: Information Today. 547-556.
- Marlow, C., Naaman, M., boyd, d., and Davis, M. (2006). Position Paper, Tagging, Taxonomy, Flickr, Article, ToRead. Retrieved April 2, 2007 from <http://www.danah.org/papers/>

- Mejias, U. (2005). Tag literacy. Retrieved April 2, 2007 from http://ideant.typepad.com/ideant/2005/04/tag_literacy.html
- Miller, H. (1934). *Tropic of Cancer*. Paris: Obelisk Press.
- Miller, H. (1939). *Henry Miller On Writing*. New York: New Directions.
- Morford, M. P. O. & Lenardon, R. J. (1995). *Classical Mythology*. White Plains: Longman Publishers
- Morris, B. (2004). *Kropotkin: The politics of community*. New York: Humanity Books.
- Nin, A. (1995). *Fire: from a journal of love*. San Diego: Harcourt Inc.
- Nin, A. (1986). *Henry and June: From A Journal of Love: the Unexpurgated Diary of Anaïs Nin*. San Diego: Harcourt Inc.
- Olson, H. (2001). Patriarchal structures of subject access and subversive techniques for change. *The Canadian Journal of Information and Library Science*, 26 (2/3), 1-29.
- Olson, H. (2002). *Power to name: Locating the limits of subject representation in libraries*. Boston: Kluwer Academic Publishers.
- O'Rourke, M. (2005). On the eve of a queer-straight future: notes toward an antinormative heteroerotic. *Feminism & Psychology*, 15, 1, pp. 111-116.
- Palmer, C. L. & Malone, C. K. (2001). Elaborate isolation: Metastructures of knowledge about women. *Information Society*, 17, 179-194.
- Postman, N. (1993). *Technopoly: the surrender of culture to technology*. New York: Knopf.
- Quintarelli, E. (2005). Folksonomies: power to the people.
Retrieved April 15, 2007 from <http://www.iskoi.org/doc/folksonomies.htm>
- Rainie, L. (2007). 28% of online Americans have used the Internet to tag content: Forget Dewey and his decimals, Internet users are revolutionizing the way we classify information – and make sense of it. Retrieved May 3, 2007 from http://www.pewinternet.org/PPF/r/201/report_display.asp

- Samek, A. (1998). Intellectual freedom and social responsibility: An ethos of American librarianship, 1967-1973 (Doctoral Dissertation, University of Wisconsin-Madison, 1998).
- Shirky, C. (2005). Ontology is overrated: categories, links, and tags. Retrieved March 13, 2007 from http://www.shirky.com/writings/ontology_overrated.html
- Shirky, C. (2007). Supernova conference presentation. Retrieved July 30, 2007 from <http://www.youtube.com/watch?v=Xe1TZaEITAs>
- Speller, E. (2007). Collaborative tagging, folksonomies, distributed classification or ethnoclassification: a literature review. Retrieved March 21, 2007 from <http://informatics.buffalo.edu/org/ljs/ljsSearch.php?kw=Edith+Speller>
- Sterling, B. (2007). Order out of chaos. Retrieved March 21, 2007 from <http://www.wired.com/wired/archive/13.04/view.html?pg=4>
- Svenonius, E. (2007). *The intellectual foundations of information organization*. Cambridge: The MIT Press
- Tarrow, S. (1994). *Power in movement: social movements, collective action and politics*. New York: Cambridge University Press.
- Tennis, J. (2006). Social tagging and the next steps for indexing. Retrieved March 10, 2007 from <http://dlist.sir.arizona.edu/1726/>
- Tonkin, E. (2006). Searching the long tail: hidden structures in social tagging. Retrieved March 10, 2007 from <http://www.slais.ubc.ca/users/sigcr/events.html>
- Vaidhyanathan, S. (2004). *The anarchist in the library: How the clash between freedom and control is hacking the real world and crashing the system*. New York: Basic Books.
- Van Aelst, P. & Walgrave, S. (2004). In Wim can de Donk, Brian D. Loader, Paul, G. Nixon, Diete Rucht (Eds.). *Cyberprotest: New media, citizens and social movements*. New York: Routledge.
- Vander Wal, T. (2004). Folksonomy. Retrieved February 2, 2007 from <http://vanderwal.net/folksonomy.html>.
- Voss, J. (2006). Collaborative thesaurus tagging the Wikipedia way. Retrieved May 6, 2007 from <http://arxiv.org/abs/cs.IR/0604036>

- Ward, C. & Goodway, D. (2003). *Talking Anarchy*. Nottigham: Five Leaves Publications.
- Ward, C. (2004). *Anarchism: A very short introduction*. New York: Oxford University Press.
- Weinberger, D. (2007). *Everything is miscellaneous: the power of the new digital disorder*. New York: Henry Holt and Company.
- Winget, M. (2006). User-defined classification on the online photo sharing site Flickr ... Or, How I learned to stop worrying and love the million typing monkeys. Retrieved March 10, 2007 from <http://dlist.sir.arizona.edu/1854/>
- Wiser, W. (2001). *The twilight years: Paris in the 1930s*. London: Robson Books.
- Woodcock, G. (2004). *Anarchism*. Peterborough: Broadview Press.
- Žižek, S. (n.d.). Tolerance as an ideological category. Retrieved April 23, 2007 from http://consellodacultura.org/sentidos/wp-content/uploads/2007/03/zizek_santiago.pdf
- Žižek, S. (2006). *The parallax view*. Cambridge: The MIT Press.